

W. H. A. Winsor

ITEMS OF INTEREST.

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No. 5.

Thoughts from the Profession.

DR. WM. H. ATKINSON.

EDITOR ITEMS:—You ask if I can give an account in brief, detailing something of the career and its ending, of him who has been much admired, much loved, and no little inspired into larger usefulness in a calling that was on low ground when he was led “by the angels” to espouse it as a chosen vocation. Before Dr. W. H. Atkinson was moved so divinely to be “nothing but a dentist,” other great hearts and earnest purposes had set in motion a work opening opportunities for such a man as Dr. Atkinson has proved himself to be. He has been literally a great seed-sower, sowing beside all waters. The Dental School, set on foot by the inspiration of such men as Hogdson and Harris, opened the hard soil, and over this upturned field, this great paternal spirit has gone, brooding it by the warmth of his great nature, intensified it by his unparalleled enthusiasm, and has transformed a barren field into a garden that is producing fruitful results, verifying what he foresaw when he said, “This is to be the tip-top, blue, blue blossom of royalty, second to no other in the department of the healing art.” He found our calling a trade, he left it with the dawn of a scientific halo of a profession about it. We’ll have no such man with us again, but the spirit and purpose of his life will not forsake us. Many have learned of him what they will never unlearn, and it will bear fruit to the honor of their teacher. To undertake to measure such a life, is not in the ability of finite one. His endowments, mental and moral, were of unusual measure. His father was a pioneer Methodist preacher; his mother was one of those angelic Quakeresses, whose life was spent in doing good. Dr. Atkinson partook largely of the nature

of both. He, too, was a Jehu in devoted teaching, an angelic nature to all in need, and to such he gave his all, without a thought how it would leave him. He was prodigal in his generosity.

He has come and gone. That he will be immensely missed is already apparent, and this will become more so as the days go by. There is much that could be said of such a career. It will be as well now to stand as long as we can in the fresh perfume he has left behind. The coming association of our bodies will voice his eulogy, and be inspired to further the interests of the work, the need of which he has revealed to us. Associations all over our country, and not a few in other countries, stand as an emphasis of his purposes, and it is through the organized bodies the work will be furthered. Thus the great brotherhood is being revolutionized and evolutionized, and human destiny is fixed. Let us keep in view our gratitude that such a soul has done so much to make our calling honorable.

Every one has the earthy side of life. It is our *duty* to cover it with the mouth of charity, for we are constrained to say, in view of our own weaknesses, "Who maketh us to differ?"

Dr. Atkinson was seventy-six years of age January 23d, and on that day he received telegrams and letters of congratulation; and the perfume of beautiful flowers evidenced the tender regard in which he was held.

Dr. Atkinson's demise may seem sudden to many, but not to us, for we have been strongly impressed during the four winter months we have had the pleasure of being with him, that his career was drawing to a close, and we now recall many remarks that lead us to believe he was so impressed. He did not recover fully from an attack of "La Grippe" a year ago, and then added to his broken health, the loss of both of his sons—one last May, and the second only three days previous to his own calling on of the spirit—fluttered in the waving of the breezes on the fitful ocean of life, till the sails flapped loosely and the little ebbing of the tide brought the tempest-tossed bark into the harbor of *eternal rest*, and immortality began. Dr. W. H. Atkinson was born again. In our view, this going out of the spirit is the new birth.

"We must be born again."

Up to the very day of his death the doctor was anxious to do all he could for the promotion of the dental profession. He had expected to read an essay at the Dental Section of the American Medical Association, at Washington, D. C., May 5th, on "Adenoid Growth." But alas! how little we know even of the near future.

Geo. A. Mills.

A HOME-MADE GAS GENERATOR.

It is well-known that the vapors of gasoline, or similar hydrocarbons, are easily combustible. There are two methods which may be employed to convert the liquid into a gas or vapor, either by the aid of heat, as in the common gasoline stove, or by passing through it some other gas, such as air, which carries along with it some of the gasoline in the form of a vapor. It has been, within a year, proposed to make use of this principle to obtain a flame suitable for dental soldering, by blowing such vapors through the flame of an alcohol lamp; and, more recently, to blow air through the liquid and store the inflammable products in a gas holder. Both the alcohol lamp and the gas holder may, however, be dispensed with, the gas being made only as it is wanted for use.

At the request of some of the students in my department I have arranged an apparatus which can be cheaply and easily constructed, and has proved itself far superior to an alcohol flame for use in mechanical dentistry, the cost of operating it being very small. It may, therefore, be of interest to those of the profession who are so situated as not to have illuminating gas at their disposal. The apparatus may be placed under a work table as indicated in Fig. 1. As in use here it consists of two wide-mouth bot-

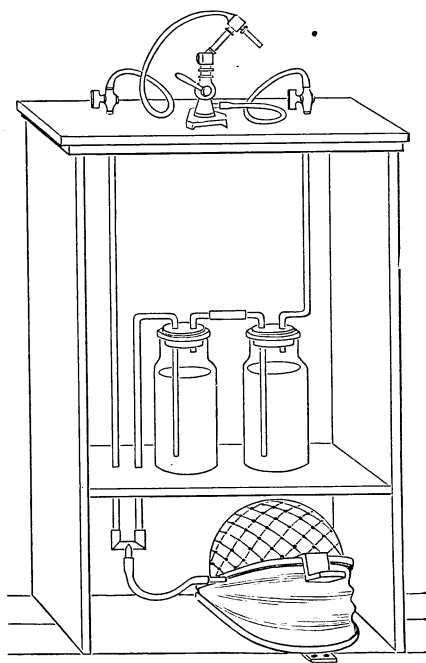


FIG. 1.

tles* filled to the neck with loosely packed cotton and perhaps two-thirds full of gasoline. Each bottle has an entrance tube of about one-fourth inch inside diameter, passing nearly to the bottom, and an exit tube which only passes through the stopper. Two half-gallon bottles arranged in this way are enough to so saturate the air that it will furnish a steadier and more satisfactory flame than if only one bottle is used. The stoppers may be of cork but not of rubber, as this is attacked by the gasoline. The cotton prevents

*Such found at dental depots for making nitrous oxid gas are good.

the liquid from being carried out of the bottle, but its principal use is to cause the air to pass through in small bubbles and so to become more thoroughly saturated.

I have employed for furnishing the blast of air a Fletcher foot bellows. If a Bunsen burner is to be used this bellows is all that is needed; the gas can be led directly to the lamp, or to the nozzle held in the hand. If, however, a blast lamp or crucible furnace is to be supplied, there must either be two sources of air, or part of that from the bellows must be forced through the bottles and part blown into the flame. This can be accomplished by inserting a

T of gas-pipe into the tube coming from the bellows. One branch of this can carry air to the gas generator, the other to the lamp. Each of these should have a stop cock to regulate the amount of air which it is desired to pass in either direction. As rubber is dissolved by gasoline its use should be as far as possible avoided in the connections. The bottles may, if desirable, be placed outside of the room with a pipe connecting them with the source of air and another returning to the lamp.

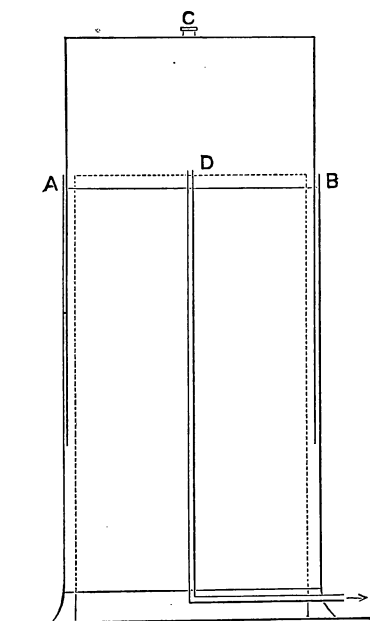


FIG. 2

If a continuous flame is needed for a considerable time, as in vulcanizing, a gas holder, such as is used for nitrous oxid, can be substituted for the bellows, first filling it with air, and arranging it so that the air shall be forced by a weight through the gasolene.

One of these can be constructed from sheet or galvanized zinc as indicated in Fig. 2, which shows a vertical section. The lower cylinder is filled with water to A B. The second of the same height, but slightly smaller diameter, is inverted in this, and, as it falls, forces the air out through the pipe which opens at D. When empty the cylinder can be filled again with air by raising it after unscrewing the cap from C. The pipe D may be dispensed with and the air allowed to pass from C through a rubber tube. The amount of water can be lessened and the weight much diminished by the addition of a third cylinder, indicated by the dotted lines so that

only the space between this and the outer one is occupied by the water. In using this gas in Bunsen burners, crucible furnaces or other heating apparatus designed for the use of illuminating gas, the apertures for the admission of air may be found to admit too much air for the combustion of the gas, as it contains already some air mixed with it. They must then be made smaller by a movable sleeve or some other device. With this modification any of Fletcher's heating apparatus may be used. The gasoline should evaporate on the hand quickly without any oily residue. It varies in quality, and after using for some time it is necessary to remove from the bottles the last portions of the liquid before it is entirely used up and to refill them with a fresh supply.

Prof. E. W. Rockwood, of State University of Iowa.

[Fig. 2 may be used for a reservoir for compressed air, this air being forced through the gasoline in another reservoir connected with this through the stop-cock C.—Ed. ITEMS.]

CORRESPONDENCE.

Why does the ITEMS sneer at the idea of a dentist keeping stimulants at hand, in case of need? Does the ITEMS take the Quixotic position that alcoholic stimulants have no place as remedial agents? It is hardly supposable, though we know that its editor is a most *temperate* man in speech, and when he has mounted one of his three hobbies, anti-tobacco, prohibition and Josh Billings' orthography, there is no telling where he will stop.

I suppose every dentist has seen patients become faint after the lancing of an abscess, opening a tooth containing a dead pulp, or extracting a painful tooth. Such faintness is always unpleasant, causing nausea and sometimes vomiting. In such cases a half-glass of wine, given promptly, will allay the nausea and cause the faintness to disappear quickly. Whisky is an efficient antidote for the toxic effects of cocaine; and any dentist who uses cocaine should have it at hand. Many physicians inject whisky hypodermically previous to the administration of an anesthetic, to strengthen the action of the heart.

Though I am not the dentist referred to in the ITEMS, yet if the ITEMS wants to know of a dentist who keeps these on hand, I don't mind saying that I do. The corks don't come out very often and only when needed, but they are always there when I want them.

D. W. Barker, Brooklyn.

PROXIMATE CAVITIES.*

In the formation of proximal cavities in the incisors and cuspids, I generally conform to a plan somewhat similar to that advocated by Dr. Arthur, of forming V-shaped or self-cleansing spaces by cutting away the posterior proximal surfaces of the teeth to be operated on inserting "face-fillings." Slight grooves should be made in the cervical walls, and slight under-cuts opposite where these cavities do not encroach on or involve the cutting edges; the under-cuts should be made along the incisive edges, the front plate of enamel being left intact. This is my rule, and while I deviate from it at times, owing to exigencies, I consider it the best means of protecting these teeth from further decay. None of the objections urged to the cutting away of molars or bicuspidis in Arthur's method apply here, and by following this plan a display of gold is avoided, which is disfiguring, and the duty of that avoidance is in my estimation second only to the duty devolving in the preservation of the teeth themselves. If a tooth is broken away I restore the contour by building up with gold, or adjust a porcelain crown. I am a staunch advocate of preserving or restoring the contour of bicuspidis and molars; in simple cavities, where space offers, filling flush with the tooth; in others where decay has destroyed the grinding surface, or it is necessary to approach a cavity by cutting away sound tooth-substance, the contour should invariably be restored. It is better that the filling should be top-heavy rather than provided with insufficient material. In that case the anchorage is extended more completely over the grinding surface, as is advocated by Dr. Parmly Brown. Usually it is better in proximate teeth to enter the carious cavity by cutting through the grinding surface; but where decay has taken place near the gingival margins, with a strong body of enamel and dentine between it and the grinding surface, it is often advisable to drill into the decay through the buccal surface, running a tunnel, as it were, along the approximal, parallel with the decay, and so reach and arrest it. In the preparation of cavities the line of cleavage should generally be followed as nearly as possible, the edges of the cavity being very slightly rounded so as to allow the filling to lap over them rather than the reverse. Retaining pits should never be used in these locations, nor, in any others except where cast fillings are employed. They are unnecessary in my method of operating. In their place slight grooves should be made in the cervical wall which cuts off the nutriment from so thin a layer of

*Read before the New York Odontological Society, October 21, 1890.

dentine and enamel rods that the overlapping filling at the beveled edge of the cavity covers and protects a large proportion of them. Strong anchorage should be secured across the crowns, where the filling is made through the grinding surface, and slight under-cuts above and below where drifts are sent in from the buccal sides of the teeth. I fill all nearly simple proximal cavities with non-cohesive foil, and never begin a contour filling with cohesive gold. Whenever it is necessary to contour a tooth, non-cohesive foil should be packed against the cervical wall, and the proximal cavity should be filled with it to within about a line of the grinding surface, where the palatine or lingual and buccal walls are intact, and as far as possible where one or both of these walls may be wanting. Cohesive foil is then welded to the already thoroughly condensed mass, and the contour and grinding surface restored. In soft bicuspid and molars, or where the cavity of decay has somewhat encroached on the pulp, tin-foil should be used in place of non-cohesive gold. In lower molars, where the destruction of tooth-substance has extended quite to or a little beneath the gum, it is frequently advantageous to fill the cavity partly up with amalgam, and at a subsequent sitting to finish and polish this filling and then contour the tooth with gold. The danger of bruising or crumbling the walls is avoided by the presence always of a comparatively thick pad of gold between the plugger and the fragile tooth. The tooth is relieved of the long-continued malleting required in all cohesive foil filling, both patient and operator are saved great fatigue, and, in the case of the former, sometimes utter exhaustion. A hermetic sealing of the cavity is also secured, and a surface for the final finishing is presented sufficiently durable for all practical purposes, and yet soft enough to enable the operator to easily make a perfect finish at the cervical wall. There is no danger of small flake-like particles over-lapping the surface of the tooth beyond the filling and probably causing a renewal of decay. A remarkable strength of union is obtained between these foils by beginning the cohesive-foil work on the thoroughly condensed non-cohesive with small pieces of gold hot from the lamp. Each piece of gold then is freshly annealed as used, and every instrument is warmed to drive off the condensed moisture of the air. The instruments with which I pack gold are all smooth. In plugging with non-cohesive foil I work on the mechanical principle of a dovetailed mortise, and with cohesive foil I depend entirely on its property of cohesion; never, under any circumstances, either depending on or desiring the interdigitation made by serrated or sharp-pointed instruments.

George H. Winkle.

NICKEL AND PLATINA IN CANADA.

Canada is perhaps the richest country in the world in mines and minerals, which have as yet only been scratched on the surface. One of our late exchanges refers to the fact that as strong as steel is, it can be made stronger by an alloy of from three to five per cent of nickel; that this means that we can have larger bridges and lighter machinery than ever. It is not said what influence this alloy may have on our dental instruments and equipment. If it can in any way improve the many articles of steel used by the dentist, it will be a boon. In this connection Canada has the largest and finest deposits of nickel in the world.

It is not possible yet to know to what extent platina exists in the Dominion. It is found in Quebec Province, in the gold washings of Rivière du Loup and Rivière des Plantes, but the quantity so far as known is insignificant. In washing for gold in British Columbia, considerable quantities have been found in the form of grains and pellets; the production in 1887, according to Government statistics, being 1,400 ounces. Small quantities of an arsenide of platina have also been obtained in the Sudbury district. No doubt later developments will show that Canada can, perhaps, supply the world with platina as well as nickel.

THE USE OF RUBBER DAM.

EDITOR ITEMS.—In March number appeared an article on retaining points, in which the writer says: "In all cases I first adjust the rubber dam. (When I see a man that don't I think to myself, he is not skilful enough in applying the dam and that is the reason.)" From the above one would think a good filling couldn't be made without it. I have never found much trouble in adjusting the dam, where the necessity of the case required it, but never could see the use of inflicting unnecessary pain to our patients by stretching the mouth wide open, ligaturing and clamping a lot of rubber dam on all teeth for the operation of inserting a simple filling, when they can be filled equally as successful without as with the dam, either with cohesive or soft gold. I fill teeth where there is little saliva, by simply using my fingers to hold the tongue, cheek and lips out of the way. Others, where the flow is greater, use paper and napkins. But where there is an overflow of saliva, I use dam.

H. Lee Harlan, Lexington, Ky.

GROWTH OF THE JAWS, AND FIRST AND SECOND DENTITION.

Commencing as early as the fifth week of fetal life, ossification of the maxillary bones proceeds rapidly, and is well advanced at birth. The lateral halves both of the upper and lower jaws at this period are, however, still united in the median line by cartilage, and the growing alveoli of the temporary teeth are indicated by a deep trench, divided by incomplete bony plates into large crypts, in which the teeth lie enclosed by the dental sacs and submucous tissue. The temporary teeth are represented by their partly calcified crowns, the stage of development varying in the different teeth according to the period at which their eruption is destined to take place. Thus the crowns of the central incisors, are nearly complete, while the apices alone of the rudimentary crowns of the cuspids have become converted into a cap of calcified material.

During the first few months after birth, the development of the maxilla is most active at the surface adjacent to the connecting cartilages and at the alveolar border. The alveoli increase in depth, and by the growth of their free margins overhang and protect the contained teeth. A little later they become nearly closed.

The age at which eruption of the temporary teeth commences varies somewhat in different individuals, but it is rarely earlier than the fifth, or later than the ninth month. Eruption of the teeth is a process of gradual elongation of the teeth on the one hand, and of simultaneous absorption of the superimposed tissues on the other. The absorption commences first in the overhanging margins and front walls of the alveoli, which gradually disappear till room is afforded for the free passage of the advancing tooth. The growth of the tooth keeps pace with this absorption, and the crown at length pressing against its membranous coverings these undergo atrophy, and, becoming by degrees thinner, and at last transparent, give way and disclose the advancing crown.

It occasionally happens that these various processes are not harmonious in their course, the advance of the tooth being more rapid than the disappearance of the enclosing bony and soft tissues. The tooth is thus mechanically held in position, and irritation is set up, which manifests itself by inflammation and induration of the gums, and even by reflex nervous disorders, and constitutional disturbance of various kinds. This explanation, which, it must be admitted is far from satisfactory, is perhaps the best that can be given of the occasional undeniable connection between "teething"

and infantile disorders; for though the connection seems taken as proved by most writers on infantile diseases, it is rare to find any attempt to trace the nervous phenomena to their source, and to explain the correlation between eruption of the teeth and the varieties of trivial and grave disorders commonly ascribed to this physiological process. That eruption of the teeth is a physiological not a pathological process, and need not, more than other similar processes of growth and development, necessarily be attended with morbid phenomena, is, however, a fact which is commonly lost sight of; and there can be no question that in most cases infantile diseases are ascribed to "teething" which have no relation to the process of dentition, many of them being caused by improper food and feeding, and other untoward circumstances. It is, however, the opinion of physicians who have had special opportunity of watching children, that even in healthy and well-managed infants local irritation, manifested by slight swelling of the gums and augmented flow of saliva, is noticeable in most instances at the time of eruption of each tooth, and it is not difficult to understand that in some instances an increase of the local irritation may give rise to reflex disorders of various kinds. It is for the relief of disorders of dentition that the operation of lancing the gums of infants is performed. This operation has for its object the division of the abnormally indurated gum, and the release of the advancing tooth. It is obvious that the utility of this procedure must be extremely doubtful when it is carried out prior to the passage of the crown through the contracted bony orifice of the crypt in which the tooth lies; but the operation may be reasonably expected to afford relief where the advancing tooth can be distinguished beneath the tense and swollen gum.

The order in which the temporary teeth are erupted seldom varies. The lower central incisors are the first to appear. They are followed, after an interval varying between a week and two or three months, by the corresponding members of the upper set. After another similar lapse of time, the lower, quickly followed by the upper lateral incisors, present themselves. Next, after like intervals, the first molars, and then the cuspids are protruded. Lastly, the second molars take their places, and complete the series. A diagram in Dr. Louis Starr's well known work, "*Hygiene of the Nursery*," may be helpful in fixing in the memory the order in which the teeth appear, and the approximate time intervening between the eruption of the different classes.

By the time the eruption of the temporary teeth is completed (between the second and third years), considerable progress has

been made in the development both of the jaws and permanent teeth. The maxilla have increased in size, and the fibro-cartilages uniting the lateral halves are completely ossified; the alveoli which had been absorbed to give exit to the teeth, have since grown up with the advancing organs, and now closely invest them; the angle of the lower jaw, which recently after birth is very obtuse, has become more acute, coincident with the development and lengthening of the ramus, and of the articular and coronoid processes. Excepting those of the wisdom teeth, the crowns of the permanent set are all well advanced in calcification, their progress being, however, proportionate to the periods at which their complete evolution is due. The incisors, canines, and bicuspid are completely enclosed in bony crypts. The incisors are situated in the upper jaw above and behind, and in the lower jaw below and behind the roots of the teeth, which subsequently they respectively replace. The cuspids are deeply placed between the crypts of the lateral incisors and first bicuspid. The bicuspid lie within the divergent roots of the temporary molars. The molars, surrounded by incomplete casings of bone, occupy the portion of jaw posterior to the temporary set, extending into the ramus of the inferior, and the tuberosity of the superior maxilla. It may be noted that this is the epoch at which the most teeth are held in the jaws at one time. The whole of the deciduous and the whole of the permanent set are present, and of these the wisdom teeth alone are still totally uncalcified.

Within two years after the completion of the temporary set a process is commenced by which their roots are gradually removed by absorption, till in time the teeth lose their attachment to the jaws, and are cast off one by one, to be afterward replaced by the advancing members of the permanent set. The absorption does not begin simultaneously throughout the whole set, but attacks the teeth according to the order in which they are to be shed. It commences and proceeds, as a rule, at that part of the root toward which the permanent tooth is advancing, but occasionally it affects other parts at the same time. The wasting surface, which on examination is found irregular in outline and broken up into minute pits or depressions, resembles that seen in bone when undergoing absorption. Closely applied to the whole of this surface there is found a vascular papilla of slight depth, the absorbent organ, the active agent in the removal of the tissues. This papilla consists of a vascular and cellular structure, the portion in contact with the teeth being entirely made up of large multiform nucleated cells. These cells occupy the pits in the wasting tissues. The papilla originates from the contiguous vascular layer of the alveolar peri-

teum, and it constitutes a special provision in the economy for the removal of the deciduous teeth. Abundant evidence exists that the absorption is not (as was once supposed) due to the pressure of the advancing permanent teeth, and the following are some of the main facts composing this evidence :

1st. In some of the lower animals, notably in the serpent, conditions exist during the evolution of successive sets of teeth, which prove beyond doubt that absorption of deciduous teeth, similar to what occurs in man, takes place independently of pressure. This fact has been clearly demonstrated by Mr. Charles Tomes. He has shown that the succession of teeth in snakes is endless, new teeth continuing to be developed at the inner side of the teeth already in place throughout the lifetime of the animal ; that when a tooth is about to be shed, both it and the bone at its base are attacked by absorption, this taking place at its inner side before the outer side is involved ; and that the advancing tooth moves forward, the delicate cells of its enamel organ remaining *in situ*, even after absorption has been effected to such an extent that the inner side of the old tooth has been cut away, and the successional tooth has passed into the space thus gained. "It is obvious that if the successional tooth had ever come into contact with its predecessors, these cells, at the point of impact, could not have escaped destruction."

2d. Absorption of human temporary teeth frequently goes on at points remote from the permanent successors.

3d. The permanent do not impinge on the temporary teeth during their advance, and, on the contrary, are separated from them throughout by the bony walls of the crypts in which they are enclosed.

It happens occasionally without assignable cause that temporary teeth retain their positions long after the period at which they ought to be shed, and even till middle age. Sometimes they apparently form the sole obstacle to the eruption of their permanent successors, the presence of which may then be usually recognized from the contour of the external alveolar plate within which they are hidden. Frequently, one or more healthy-looking and firmly-fixed temporary teeth are found in position with absence of the members of the second set which should occupy the places long after childhood. A reasonable time should be given for nature to take its course, but temporary teeth ought not to be allowed to remain beyond childhood—beyond the period when the second permanent molars are well in place. The extraction may be followed by one of two results—either the excluded permanent tooth will

emerge, or the space left will become in time much diminished, and in a crowded set will be surely filled by the teeth spreading, which always takes place in these circumstances in youthful jaws.

Retained temporary teeth rarely endure beyond approach of manhood. When long retained temporary teeth have been at last shed, artificial teeth are called for, to fill toward the front of the mouth unsightly gaps which have shown no tendency to close, but which might have become obliterated had the temporary teeth been removed during youth.

Retained temporary crowns may be of good color, and look healthy; they occupy usually a lower level than the adjacent permanent teeth, and sometimes a temporary molar seems held in place mainly by its neighbors, which, leaning toward each other, keep it in position. On seizing such a tooth with forceps it will commonly be recognizable that the only resistance to its removal is formed by this condition. When the tooth comes away it is often found to have little or no roots, and the permanent crown may be perhaps seen or felt in the socket beneath.

The process of eruption of the permanent teeth closely resembles that which has been described as occurring in the first dentition. By the time each temporary tooth is shed, absorption has commenced in the plate of bone which up to this period has closed the crypt of the permanent successor, and this absorption proceeds till the opening is large enough to permit the free passage of the emerging crown. When the crowns of the teeth have become fully protruded the development of the alveoli again becomes active, and the bone in time closely embraces the necks of the teeth, and invests the roots in accurately fitting sockets.

The age at which second dentition commences varies like the first, in different individuals, but the order in which the teeth appear is rarely irregular. The following may be taken as average dates at which the eruption of the different teeth is completed. The teeth of each class appear somewhat later in the upper than in the lower jaw :—

	YEARS
First molars }	5 to 7
Central inferior incisors . . }	
Central superior incisors . .	6 to 8
Lateral incisors	7 to 9
Anterior bicuspid	8 to 10
Canines	9 to 12
Posterior bicuspid	10 to 12
Second molars	12 to 14
Wisdom teeth	17 to 25

The eruption of the permanent teeth is rarely, if ever, attended with constitutional disorders caused by reflex nervous disturbance, such as commonly accompany first dentition; and local irritation is rare, except in the lower wisdom teeth.

—Henry Scwill, in his *Dental Surgery*.

DELAYED OR MAL-ERUPTION OF THE PERMANENT CUSPIDS.

The third molars excepted, the cuspids are usually the last teeth of the permanent set to erupt, and they almost invariably make their appearance outside the arch. When there is room in the arch for their accommodation and they erupt directly outside of it, we may feel assured that at the proper time they will find their way into place unaided. Where, however, they erupt over the lateral incisors, as they sometimes do, and these incisors are in consequence forced inward from their true position, it becomes necessary to interfere and endeavor to draw the cuspids toward their proper places. This is usually not difficult when the cuspid crown is far enough erupted to enable us to apply pressure. By cementing a Magill band to the cuspid, and another to the second bicuspid or first molar, each having a pin or hook attached to its buccal surface, an elastic rubber ring extending from hook to hook will, in a short time, draw the cuspid back to a position opposite the space it is to occupy.

It sometimes happens, however, that the cuspids are tardy in their eruption, and fail to assume their positions in the arch at the time they are needed to complete the row and prevent the incisors and bicuspid from encroaching on the space the cuspids are to occupy. It is then generally advisable to hasten their eruption by the application of tractile force. Where half of the crown is through the gum we can attach to it a Magill band with a pin, hook or other projection on it, and by its assistance apply power to the tooth.

We have had several instances where elongation of the cuspid was called for, when only the cusp of the tooth was visible through the gum. Here, the application of a cemented band was out of the question, and attachment to the tooth had to be gained in another way. The difficulty was solved by tying a silk ligature in a half knot, passing it over the projecting cusp, and then with a small, flat plugger, forcing this ligature up under both gum and alveolus till it encircled the neck of the tooth, when it was drawn tight and made fast with a surgeon's knot. A very small gold ring, with a

center only large enough to admit of the passage of silk floss, was then slipped over one of the ends of the ligature and tied so that it would lie on the labial face of the tooth near the gum. This ring was allowed to remain without change till the tooth was drawn into position. A delicate vulcanite plate was constructed to fit the arch, and extend into the space between the lateral and first bicuspid. At this latter point the plate was thickened till it was nearly on a level with the cutting edges of the adjoining teeth, and made concave on its most prominent part. A rubber spur was also formed on the plate, in a line with the cuspid and space. The plate being in position, a rubber band was passed over the spur and drawn tight to the ring on the tooth by means of a ligature, the band in its course resting in the notch of the elevation on the plate. By this arrangement no pain was inflicted, except that incident to forcing the ligature into position under the gum, while power was exerted in a nearly direct line with the long axis of the tooth, and in a gentle, continuous manner.

Another, and excellent plan of securing attachment to a partially erupted cuspid, is that devised by Prof. J. F. Flagg. It consists in screwing a gold ring-bolt or screw-eye into the point of the cusp. The screw-eye can be made by soldering a small gold ring to the end of a section of threaded gold wire. After the correction is accomplished, the screw is removed and the hole filled with gold.

If mal-position of an erupting cuspid should be complicated with torsion, the correction of the latter will be best accomplished after the tooth is nearly in position.

When a superior cuspid erupts inside of the arch, it may either be forced outward by a Coffin plate and spring, or it may be drawn outward by one of the several methods mentioned for similar operation on the incisor teeth.

The difficulty of gaining a firm hold on a cuspid tooth, owing to its round and conical form, may be overcome by encircling it with a Magill band. To this any desired attachment can be made.

—Prof. S. H. Guilford, in his *Orthodontia*.

EDITOR ITEMS:—We notice in the April number of the *ITEMS OF INTEREST* (page 246), the following: "The Philadelphia Dental College, during its last session, had three hundred and fifteen matriculates. Much the largest in the history of any dental college." During the last session, the Chicago College of Dental Surgery had three hundred and twenty-three matriculates, exceeding the Philadelphia college by eight.

Truman W. Brophy.

TAKING IMPRESSIONS.

It is almost impossible, in some cases, to take a perfect impression of the lower jaw. The lips and cheeks are so soft and flabby, and sometimes lie so in folds on the almost obliterated alveolar ridge that, when the mouth is opened, the folds are not drawn out of reach of the impression tray. Last January I had a case of this character, a lady, who is in the ninety-ninth year of her age. I made three unsuccessful attempts to get a good impression. The first showed a thin fold of the cheek, resting on the ridge of the jaw. The next gave evidence that a membranous fold, at the side of the tongue, had been caught by the plaster, and the third showed an interference by the lower lip.

I then made a bow of wire, wide enough, when placed in the mouth, to puff out the cheeks, and long enough to prevent the lower lip from falling inward on the jaw, the wire being far enough outside the jaw to admit freely the impression tray, and leaving the soft parts connected with the jaw without any restraint to receive the plaster. The tray had been previously adapted to the jaw; the batter seemed to be of the right consistence, and a very satisfactory impression was obtained. A denture was then constructed which greatly improved her speech and facial expression.

I feel more and more the importance of making the mouth a study before attempting to get an impression. If I have not a tray adapted to the mouth, I make one that is; or, build out the tray I have with wax.

The idea of having an impression taken produces in some ladies strange imaginings; and when they take the chair for that purpose they manifest considerable anxiety, till they are assured great care will be taken to prevent all unnecessary unpleasantness. In preparing the plaster, it is important, not only to have it of the right consistence, but to insert it in the mouth immediately it begins to set. If the tray is held still a sufficient length of time, the impression will sharply represent every phase of the membrane covered, however minute it may be; but if the tray has been moved after the plaster has begun to set, the impression will be imperfect, and the plate will not fit the mouth. In taking impressions I give my whole mind to the operation. In former years, I think I knew but little about the delicacy of touch and movement in introducing the plaster, and in removing it from the mouth. Ladies, especially, need encouragement and sympathy before the trial, and, if patience is exercised by her, she is entitled to hearty thanks.

T. Dwight Ingersoll, Erie, Pa.

SUCCESSFUL AMALGAM FILLING.

Proceedings of the Brooklyn Dental Society.

Dr. Ottolengui: A dentist conceived the idea of applying Dr. Arthur's method. He ground out a V-shape space between two teeth. They decayed; and then the patient went to another dentist, who filled the two teeth as one cavity, the operation lasting about nine days; the lady then came to me. The filling was loosened from both teeth. I don't wish it to be understood that I am speaking against this class of operation, as in many cases it is useful.

The condition of these teeth was deplorable. The filling being loose, acted as a wedge to drive the teeth apart during mastication and pressing up against the gum. This added to the irritation and inflammation. The cavity did not reach the palatal, buccal, or biting surfaces of the teeth, and therefore was surrounded by thick walls, the proximal contours of which had been destroyed by the action of the file. To attempt a restoration of contour without altering the cavities would have involved building thin edges where the filling lapped over these flattened surfaces, risking future fracturing. Both cavities extended as far below the gum as they did above that line.

I began by doing what Dr. S. G. Perry has deprecated. That is, I extended the cavities through the crown surfaces. I also extended them laterally till I obtained thin edges to my walls. This allowed me to see to the bottoms of the cavities, which was of importance. The space between the cavities was then packed with cotton saturated with twenty grains of menthol to one ounce of benzoinol, the gums having first been cauterized with Robinson's remedy: (caustic potash and carbolic acid equal parts). Above the cotton I placed temporary stopping, filling the space as one cavity. Where benzoinol, which is a new drug, is not readily obtainable, liquid vaseline may be substituted. This treatment was repeated daily for three days, when the gums began to assume a more healthy tone, and by careful operation no hemorrhage was encountered. At the third sitting, without using the dam, which would have been impossible, the posterior cavity in the first molar was filled with amalgam, and the dressings renewed. At the fourth visit, this filling was polished, and the second cavity filled with temporary stopping. A wedge was then inserted, the cotton dressing lying against and protecting the gum. At the fifth visit, the other cavity was filled, also with amalgam, it being contoured till it touched the anterior tooth. Before packing this cavity, a

roll of bibulous paper was gently laid against the gum, which was by this time pressed up above the margin of the cavity, though only slightly. This served a double purpose: It absorbed moisture and prevented amalgam from getting into the soft tissue. The cervical margin in these cases must be burnished smooth, *while the material is plastic*, and the paper may be drawn out last of all.

At the sixth sitting, the use of a thin saw gave room for the sand-paper disk, and both fillings were polished with great care. As the teeth had been separated, they soon came together again and are now in close juxtaposition. There is no more complaint of food lodging between the teeth, and the gums have become healthy and firm.

Dr. Van Woert: What did you charge for those fillings?

Dr. Ottolengui: The charges have nothing to do with the principles involved, but I do not mind stating that I charged fifteen dollars a piece for the fillings.

Dr. Van Woert: There are not many who will pay such prices for amalgam fillings.

Dr. Ottolengui: That is true; but that is because we have improperly taught our patients to believe that we regulate our fees by the material used. I gave the lady six sittings, which occupied perhaps eight hours in all, so that my charge was moderate, figured from a basis of time. Many dentists would have found it easier to persuade the patient that gold crowns would serve her best, and because the word "gold" appears, there would have been no trouble to collect twenty dollars apiece for the teeth. I think I gave her better service, and the mouth is not disfigured by two large masses of gold. We should explain to our patients, as we go along with our work, exactly how much service is being rendered, and we should charge in proportion to the benefit which the patient receives rather than from any consideration of material.

Dr. Reese: I have for the last three or four years introduced all my fillings by using oxyphosphate. I first put it into the cavity after it is properly prepared, and then while in that plastic state introduce the gold or amalgam, and thus make a perfect union between the dentine and the filling material. If you know how much better I have stopped the decay by doing this than when I put in the gold or amalgam against the walls of the dentine, you would be pleased to try it yourself. When I have the whole surface covered I clean the margin of the cavity with a fine excavator, so that the border is perfectly clean from the cement.

—Dental Mirror.

RUBBER PLATES.

It is often reported that this or that patient cannot wear a rubber plate, as it makes the mouth sore and spongy, causing absorption, and some dentist or physician has said it is poison to their mouths. There may be some exceptions, but in nearly all these cases, the rubber is not to blame. I have seen as bad a condition of the mucous membrane beneath a continuous gum plate as I ever saw beneath a rubber, also as much inflammation and absorption; yet it is not as common with continuous gum, gold, or other metal plates, because they like to see the metal shine, and they work to make it shine. On the other hand, the rubber will not shine, and the color is such that but few know when they are clean. The bacteroid growths are so near the color of the plate, and they adhere so tightly to the plate, that brush and water will not bring them away; neither will careless brushing with pumice stone. These bacteroids that grow on the plate have the same effect on the mucous membrane of the mouth, as they do on the gingival margins when they grow on the teeth. In either case there is irritation, redness, tenderness and a spongy condition. To remove them from the plate thoroughly, some caustic alkali must be used to soften them—ammonia, potash, or soda. To illustrate: a lady came to me who had been wearing a temporary rubber plate, and for whom several had advised a metal plate, as rubber was poison to her mouth. Also, several physicians had told her she must not wear rubber any longer. As she could not afford a metal one, she applied to me to see what I said about it. I told her I thought she could wear rubber as well as anything else, though the whole roof of her mouth looked as if the blood was ready to run from every point. I showed her how to clean her plate, which I had her do twice a day, requiring her also to brush the roof of the mouth morning and evening with a weak solution of cider vinegar. At the end of ten days her mouth was healthy, though she wore the same plate (minus the "bugs") both night and day. After treatment she had a permanent plate of rubber. After three years, her mouth is still in good condition.

To satisfy yourself with an experiment, take the next plate that comes in, wash it so as to remove all the food and brush it as well as plates are usually brushed; then place the plate in a strong solution of ammonium hydrate and see the little tufts swell up on the surface. In half an hour you will be astonished at their size. Of course I do not claim this will occur in every case, but almost sure to do so when it is said they cannot wear rubber.

W. H. Jackson, D.D.S., Ann Arbor, Mich.

FILLING TEETH.

We now have the electric light to aid us in our dental operations, and I find by its use I can discover imperfections in cavities I have prepared that had previously escaped my attention. Why? Because the electric light gives a paler white light, and it is more intense than daylight. This is particularly so in that form of decay known as the white decay. You may prepare the cavity with the ordinary care, having it seemingly perfectly dry, and a magnifying glass will show you no imperfections, but with the aid of the electric light you find them.

Enamel unsupported by dentine disintegrates. Here has been one source of our failures, we should remove unsupported enamel.

One form of combination of filling material that I have been using for a number of years—I may say from the time I commenced to practice dentistry, fifteen years ago—has proven in my hands very satisfactory, viz., amalgam with gold. The amalgam is placed with as much care as gold, the walls of the cavity being prepared not as we prepare them for gold. I find in cavities of frail teeth where amalgam and gold are used in combination, that my results are much more satisfactory than where filled with gold or amalgam. I refer now to the large cavities in molars or bicuspsids, which involve the whole proximal surface and reach into the crown. You know amalgam does its best work at the cervical margins. Gold does its poorest work on proximal surfaces. We have here a combination material which will resist the action of further caries better than any filling I know of. I was pleased to see in some of the journals during the past year, that Dr. Taft, a man who always advocated nothing but gold till recently, now speaks very favorably of this combination, which convinces me that the world is moving, and that our able men who sometimes get into ruts are trying to get out of them.

A few years since some one advocated a combination of amalgam and cement as a filling material. I do not believe in it. It has not proven satisfactory.

Another point. Some one a few years ago brought to our notice the antiseptic properties of filling materials, particularly as illustrated in the use of the tin and gold combination. That was heard of all over the world. Every dentist was using it. How is it to-day? Tin and gold are not being used to-day as much as they were. We found we were making mistakes, for we have found that tin and gold possess no antiseptic properties.

We sometimes go wild over new appliances and new materials,

and we have done so with the copper amalgam craze. We have one man in Chicago, an able operator, who has thrown all amalgams out of practice except copper amalgam. I think he is making a mistake. We may find during the next few years that some poisonous salts may be produced by the use of copper.

When a patient comes to you for the treatment of a pulp, observe the condition of the part. You ask, Has it been recently exposed? Is it hypertrophied or atrophied? What is the condition of the blood of the patient? Is he in a reasonably healthy condition? Is he anemic, syphilitic, or scrofulous? By observing these points and putting them into practice you obtain much benefit. Is there anything more to be observed besides these three conditions? Yes. I add these four: (a) A correct understanding of the anatomy of the part; (b) a correct understanding of the physiological action of the part; (c) pathology, and (d) chemistry. By using or rather bearing all these things in mind we are capping pulps to-day and are saving them.

About ten years ago when Dr. Eames, of St. Louis, brought to the notice of the profession the "Knocking-out Method," we laughed at the idea when he told us that pulps destroyed in that way produced little or no pain. It was some years afterward before I dared to venture the experiment. It was not till I attended a meeting of the Southern Dental Association, where I found most of the dentists in the Southern States were destroying pulps by the knocking-out method, then I thought I would try it. I tried it, and in every case I have been pleased with the results.

The "knocking-out method," as it is known in the South, is this: A small opening is first made into the pulp chamber, and an orange wood point dipped in carbolic acid is placed just at the entrance, and driven into the pulp chamber.

—Dr. Pruyn, in *Illinois State Dental Society*.

I cap as many pulps to-day as I did twenty years ago, and with as much success.

Dr. Crouse.

A countryman entering a dentist's office alone, said in a confident air:

"I want a tooth extracted, but I will not pay anything extra for gas."

"You are plucky, sir; sit down and let me see the tooth."

"O! 'tain't me that's got the toothache; it's my wife. She'll be here in a minute."

ANTRUM TROUBLE.

Mr. Brown, a farmer, was troubled with a dull, heavy pain under the right eye. At first he thought it was a cold. This ran on for some time, when he thought it might be something more serious, so, after a month or two, he consulted a physician, who treated him without avail for several weeks. The trouble becoming worse he consulted another physician, and another, till seven had failed, and the man gave up in despair, a wreck generally. About two years had elapsed. His last physician was an acquaintance of mine, and one day he was telling me about the case. He said: "The man is on his bed, and has been for more than a year, growing weaker all the time; for thirteen months he has had a constant, profuse and most offensive discharge of pus from his nostrils, which makes it almost impossible for any one to stay in the room with him. His eyes are terribly inflamed, and the sight of the right one is nearly lost." The trouble was no doubt with the antrum. I went to see him and found things as I had suspected. It was a chronic abscess of the antrum. Finding the upper second bicuspid diseased, I extracted it and opened up through into the antrum, reaming out the opening as large as the socket of the tooth, when out flowed an almost incredible amount of the most offensive pus from the antrum. When it ceased to flow I straightened the point of my chip blower, putting a small cork on, the size of the socket of the tooth, and syringed out the cavity thoroughly with warm water, passing about a quart through and out at the nose. Then I syringed it with a weak solution of carbolic acid. Of course my patient was relieved as soon as he got over the shock of the operation. I put a piece of cotton loosely in the socket, leaving some carbolic acid solution and my extemporized syringe with a neighbor, and told him to repeat the operation the next day. When I went back the third day his improvement was more than I expected, and we kept up the syringing every third day for several weeks. I only saw him once a week, and sometimes only once in two weeks. Then I inserted a small tube in the opening and let it remain till every trace of the trouble seemed to be gone, when I removed it. To-day, more than a year since the treatment, the man is as well as he ever was, and has been ever since. I just received a letter from him saying he is all right, and that he is sorry he can never fully reward me. How many cases of diseases of the oral cavity there are under the treatment of physicians, which might be much better treated by consultation with dentists.

E. Ernest Murray, D.D.S., Boston, Mass.

GOLD CROWNS AND BRIDGE WORK.

I wish to call your attention to a few thoughts in relation to the preparation of roots for Gold Crowns and Bridge Work, and a novel way of attaching these appliances.

I have had considerable experience in the making and attaching of these, and will first speak of the failures I have noticed, which have been chiefly on account of improperly prepared roots, and in a failure of the material with which they were attached, failure is always a valuable lesson in achieving success, if the causes are properly studied.

EASY METHOD OF GOLD CROWN AND BRIDGE WORK.—My method of procedure is as follows: After all the carious matter has been removed the nerve cavities are filled with cone-shaped silver wire cones, which project above the gum line to any required length. The silver wire cones are first covered with a thin coating of soft amalgam and are sometimes barbed and driven in place by a few light taps of the mallet, after which amalgam is packed around them till the root is restored to such contour as may be desired. After the amalgam has consolidated, say at another sitting, any further modification of the root may be attended to. A root built up straight or very slightly cone-shaped is the best form. There are many devices for getting the measurement of the root for making the gold collar which fits at and under the gum. I now do no fitting of gold bands in the mouth, but rely wholly on a metal cast. An impression of the root is taken in modeling compound which is thoroughly chilled before removal from the mouth. An articulation is taken with wax, a plaster model is made from the impression, the cast is trimmed away at the cervical border to allow the gold band to pass under the free edge of the gum and up to the alveolar border. A metal cast is then made of fusible alloy by first imbedding the plaster cast in the fused alloy; after removal of plaster, a model die is made by pouring into the counter model; in this way you have a fac-simile of the plaster cast in metal, to which the gold plate, which is to be used in construction of the crown, can be applied; the metal cast and wax articulation is now placed in an articulator, and you can proceed just as well as if the patient was present.

If the crown is carefully made no alteration will be necessary, and it is ready to be applied to the root. I have on several occasions made bridge pieces by this method, which were never tried till completed. On one occasion, a gentleman of this city, while away on a business trip, was troubled with an aching second molar. In an

attempt to have it extracted, it was broken off even with the process, and the pulp left exposed. He immediately returned to the city, and we treated the root, built it up, as I have described, and placed a gold crown in position, which has given satisfaction.

About two years ago I was talking with my friend, Mr. T. A. Long, of Philadelphia, about cements. After reflection he suggested the use of Hill's Stopping as a material for setting gold crowns and bridge pieces which would not disintegrate, nor be affected by the fluids of the mouth, the only trouble was the great heat required. It was a happy thought—I acted on the suggestion, and have never had a failure when it was used. My method of using it is: first have the root *thoroughly dry*, and coat with a thin solution of gutta-percha in chloroform, dry with hot air, warm the crown with a sufficient amount of the stopping inside to proper consistency, and then place into position *rapidly* with hand pressure. An opening should be made in the crown for escape of excess material. When the crown is in position chill thoroughly with ice water, after which fill the opening in the crown with gold wire or foil.

My first use of this material was in setting a bridge of eight teeth. Patient returned in a few months with one of porcelain fronts on a bicuspid broken. I tried in vain to remove the appliance—used chloroform, hot air, hot forceps, hot water, and every device I could think of, but to no purpose, it could not be moved, and, as I did not want to cut the appliance to pieces, I was forced to make the repair in the mouth. This material has proven so very satisfactory in my hands that I can certainly recommend it.

—Dr. B. O. Doyle, in *Dental Review*.

TOOTH EXTRACTION IN FOREIGN LANDS.—The English, the French and the German extract more teeth than we do. We are taught to save such as are ruthlessly sacrificed by the average European dentist. No one at an American meeting ever saw such dental butchery as was exhibited at the Berlin Congress, and I doubt if an American representative society would witness such extraction of teeth which might be saved as was seen at Exeter, though the latter in repulsiveness was as nothing in comparison with the former. Some way, Americans consider it rather a shame to be caught pulling teeth. It looks too much like amputation—a confession of failure. We extract, of course, but we don't make an exhibition of it, and avoid it if possible. In Europe it is considered as a rather high grade of dental surgery, and receives corresponding attention.

—Dr. W. C. Barrett, *cor. Dent. Review*.

SOME CLINICS BEFORE THE LAST ILLINOIS SOCIETY.

Dr. J. B. Morrison, of Indianapolis, filled a lower left second molar crown cavity, using Steurer's plastic gold. The claim set forth for the material is the rapidity with which it can be introduced into a cavity and the condensation made wholly by the use of hand pressure. The filling was introduced with the same instrument that was used for the preparation of the cavity, thus demonstrating that success depended more on the method of manipulation than the form of instruments employed. The filling, when completed, was perfect in every particular, the introduction having been accomplished in fifteen minutes.

Dr. B. O. Stevens, of Hannibal, Mo., demonstrated his method on extracted teeth, and then filled for Dr. Sitherwood, of Bloomington, the roots of the upper left first bicuspid, with gutta-percha and wood points. His method is as follows: A piece of orange wood is whittled, and filed to a fine point, then inserted into the root canal, as far as the apex is thought to be, the measure of the supposed length of the canal having first been secured by means of a smooth broach on which there is a movable piece of rubber-dam. One side of the piece of wood is then notched, and is always afterward inserted with the notches toward the same side of the tooth. The length of the root canal is marked on the wood. The point is then moistened with chloro-percha by touching it with a small quantity, not by dipping it into the bottle containing the chloro-percha. Very thin sheets of gutta-percha are made by having previously blown some chloro-percha on a piece of smooth glass, leaving a film of thin gutta-percha after the evaporation of the chloroform. Small pieces of this film are warmed and pressed on the stick of wood till about the quantity required to fill the root is supposed to be on the wood point, this is then tried in (the root canal having previously been moistened by carbolic acid and glycerine; two-thirds of the former to one-third of the latter), and more gutta-percha added, till an impression is obtained of the root canal. If the stick and gutta-percha has projected through the apex of the root, this will be shown on the gutta-percha impression of the root filling, and can be cut off before the filling is put in permanently. This impression can be used for the permanent filling of the root by slightly warming, introducing, and breaking off the wood point.

There should be two impressions of the root secured. In the first, the wood point with the gutta-percha should be pushed into

the canal as far as the supposed apex, while the second impression should be secured by pushing the wood point and gutta-percha as far as it will pass. A comparison of the two will show which is the normal length of the root, and that impression should be used for the filling.

Many members of the profession have hitherto been under the impression that the canal was virtually filled with wood, while the true condition of affairs shows that the wood is completely enveloped by gutta-percha, which is generally recognized as a suitable root filling. By thus securing impressions of the root canal the operator is enabled to more perfectly fill undeveloped root canals which are extremely large at the apex.

Dr. J. M. Barcus, of Carlinville, Ill., filled the left upper central incisor for Dr. O. J. Read, of Springfield. The cavity of decay extended from the mesial surface of the tooth half way across the cutting edge. The filling was built out, and contour restored with Williams' No. 4 gold foil condensed with the hand and automatic mallets.

Dr. A. W. Harlan, of Chicago, performed an operation for the renewal of receded gums, the patient being Dr. J. A. W. Davis. This operation consisted of cleansing the root of foreign matters, and the making of a crescentic incision through the gum to the alveolar process. This incision was filled with granular resorcin to distend the wound, which, the operator said, would fill with cicatricial tissue. An operation was also made to restore a blunted septum of gum between the cuspid and the lateral incisor.

Two incisions were made in the gum at an angle of thirty degrees from the axis of the root. These were likewise filled in with the granules of resorcin. Dr. Harlan said that after the lapse of three weeks a second operation would be needed, of like character, avoiding the newly-formed tissue in making the second incision.

Dr. A. E. Matteson, of Chicago, inserted an enamel inlay for Mr. Barney Cleam, the cavity being situated on the labial surface of the upper left cuspid, extending well under the free margin of the gum. The inlay, when completed, presented a fairly creditable appearance. The process of this character of inlay is in a comparatively imperfect state, but its future possibilities seem to be promising, and the doctor is making efforts to bring it to perfection. No. 30 rolled gold is stamped into a matrix, the form of the cavity, and with this is fused jewelers' enamel. The imperfections lie in failing to secure suitable shadings for various teeth.

THERAPEUTIC APPLICATION OF NITROUS OXIDE.

Neuralgia, uncomplicated, will sometimes be relieved by a few inhalations of nitrous oxide gas.

Nervous Aphonia.—This peculiar form of loss of the power over the voice, usually the result of hysteria, will be much improved by the patient inhaling sufficient nitrous oxide gas to produce a partial loss of sensation and muscular relaxation.

Local paralysis has been benefited, when there was no brain lesion, by the gentle stimulation by the first stages of the gas or the tingling and stimulating effect on the muscles.

Asthma.—This disease, when of a spasmodic character, is often much improved by causing the patient to pass into the stage of relaxation, employing it every other day for a week or two. It also tends to expand the lungs.

Epilepsy.—When this disease is not the result of an organic change in the brain, spine, or other portion of the nervous system, but the result of some peripheral, or reflex action, benefit will ensue by the use of the gas for weeks. It should be administered two or three times a week only, to produce the stimulating effects of the first stage of anesthesia.

My friend, Dr. George J. Zigler, has found the solution of the gas in water of much utility in diseases of the lungs, kidneys, and other diseases of this class.

In connection with the above we add a part of a discussion of a paper by Dr. John Aulde, M.D., Philadelphia, on Instruments and Appliances for Administering Oxygen. In the discussion of the paper Dr. M. Price said :

"I would like to ask to what the benefit from the use of nitrous oxide is attributed? Fifteen years ago we used nitrous oxide at the dispensary for the extraction of teeth. Many consumptive cases in which it was used came back in a few weeks stating that they had never been so much benefited as from the inhalation of nitrous oxide. My explanation is that the nitrous oxide acting as an anesthetic, lessens the pain of respiration, and the patient in his efforts to secure air expands the lungs, filling portions of them that have not been used. The action is just the same as when we break up the adhesions about an ankylosed joint under ether. I have employed the nitrous oxide in many cases of phthisis with advantage, and dentists have informed me that they have often been told by consumptive patients that they have been benefited by the inhalation of this anesthetic."

WHY DENTISTS DON'T DIE RICH.

We happened to be glancing over a trade paper, some time since, and read an editorial regarding the unprofitable manner in which some conduct their business. We have plagiarized the article, but altered it slightly to fit the dentist's side of the question.

In the foremost ranks of unwise men should be placed those dentists who so far ignore business principles and the spirit of fair dealing, as to take work at prices which will not properly pay. If a truthful history of dentistry in this country for the past ten years or more were to be written, it would be punctuated by many instances of disaster overcoming those who have striven to increase their business without taking profits into consideration. Suppose a dentist has \$5,000 invested, which includes his pupilage, college expenses and office outfit. Judiciously placed in bonds or other securities, this sum would realize for the investor, say \$250 per annum. His services, if employed by others, ought to increase his income to \$1,000 or thereabouts. In business for himself, this earning power of his own labor and capital ought never to be lost sight of. Then add ten per cent annually for depreciation in the value of his office; \$300 for rent; \$500 for stock; \$150 for repairs, heating, and exceptional expenses, and he has a total of \$2,450, entirely outside of living expenses, which he must consider in making estimates. That this is not an exaggeration, every dentist who is honest to himself will admit; but how many there are who disregard their own interests, and slash prices at the instigation of that unconscionable devil, Competition, to the extent of self-robbery. However annoying it may be to lose old patients, or whatever the gratification of keeping business from a competitor, it is silly, senseless, and suicidal in the end, to wear out brains and muscles in the effort to hold or gain profitless patronage.

It is wiser, by far, to do a small and profitable business, looking for patients among those who can appreciate good work and are willing to pay fairly for it, than to fall into the bad way of exchanging an old dollar for a new one, simply to keep yourself employed. The latter course is a losing game, and an injustice to the patient, to one's self and to competitors. And patients do not appreciate you the more for low fees. They rate you by your fees and the fidelity with which you earn them.

—*Ed. Dental Advertiser.*

PYORRHEA ALVEOLARIS.

There is a frequent departure from health, called pyorrhea alveolaris. It first involves the loss of the dental ligament which unites the gingival margins to the necks of the teeth and the alveolar plates, and requires vigorous and persistent treatment to overcome the downward tendency of the nutrition of the parts and induce new granulations, by which lost tissue may be replaced. Dr. Riggs, who called special attention to this disease in his earlier practice, advocated mechanical cleansing as the only means necessary for restoration; but later he acknowledged there was something more necessary than simply removing foreign deposits and breaking up adhesions of a morbid character. This is a form of local deterioration that yields to escharotic treatment and constitutional tonics and depuratives much more readily than is generally accepted by medical men and dentists. The proper treatment is to use some agent that will dissolve the dead and dying part of the tissue so as to set up a line of demarcation between the diseased and the healthy structure, so as to throw off by exfoliation what would be a scab, if it were external, where it could dry down. Compound aromatic sulphuric acid, in full strength as it comes from the pharmacy, is a remedy which, when faithfully employed, has brought about restoration in a kindly manner. Caustic paste is a more active and powerful remedy, and in judicious hands is to be preferred. When a series of pockets are present, there should be a fixture attached to the teeth, leaving room for the granulations to grow up inside, which they will do when protected from foreign matter, finding lodgment there to set up the deteriorating process and to destroy the granulations, thereby preventing the reproduction of the gums first, and of the alveolar plates subsequently, which follows, when it is faithfully kept in good condition by constitutional remedies, hygienic exercise and exposure to pure air and sunlight, which should always be invoked where the patients are able to leave their rooms.

—Dr. Wm. H. Atkinson, in *Southern Dental Association*.

EDITOR ITEMS.—My experience has been, that however thoroughly I strive for asepsis in a tooth that has become saturated with septic matter from a dead and decomposed nerve, and fill with copper amalgam, that it invariably turns a dark greenish-blue—a disgrace to me, and an annoyance to my patients.

Jno. W. Harris, Morris, Minn.

WHAT SHALL BE DONE WITH THE FIRST MOLAR?

Coming, as it does, at a tender age, when the conditions of the mouth are unfavorable, we generally expect to see this tooth carious. Too often, the disposition is to extract, and against this I wish to enter a vigorous protest.

The first molars are the largest teeth in the mouth. They are as well formed as any of the permanent teeth. I am many times led to think they are better developed than the second molars, for I have often noticed the latter require filling first.

Let me now suppose a child about seven years of age brought for examination and advice in regard to the teeth. A glance into the mouth reveals the fact that the first molars are beginning to decay. I urge on the parents the importance of immediately filling. If the parents have the idea that these are first teeth, I try to show them they are in error, that the tooth is one of the permanent set.

Often the second deciduous molar is affected with extensive decay on the distal surface. If so, I should freely cut it away, so that the liability to decay from that source would be lessened.

I never extract this tooth if there is any possible way of saving it. I never extract with the view of making room for the other teeth, *i. e.*, to prevent possible irregularity. In this opinion I am supported by many, noted for knowledge, skill and sound judgment.

But in many instances, caries has made such havoc with these teeth that large portions of the crowns have been lost, and pulps nearly, if not altogether, exposed; and too often the patient has had genuine toothache. Now what shall be done? In a letter recently received from Prof. Darby, of Philadelphia, in regard to this subject, he expresses the opinion that prior to the tenth year the proper course in treating a first molar in the condition I have described, is to cap the pulp, and if that is not successful, extract, rather than remove the pulp, and fill the roots; and furthermore, he is of the opinion that the first molar should not be extracted later than the eleventh year.

Prof. Darby's opinion seems to me sound, though he gives no reason why he would not devitalize the pulp before the tenth year. I have done so in many instances and as yet have not seen any bad results, though successful capping and retaining a live pulp in the tooth is much to be preferred; and if at any time of life the pulp can be successfully capped, it surely is prior to the tenth year.

One objection to devitalizing the pulp prior to the tenth year

is this: The tooth at that age is not nearly so hard as it will be some years later, and if the pulp is removed, all nourishment of the crown ceases. If it be extracted before the second molar is erupted, that tooth can take its place. That may be the reason why Prof. Darby would not devitalize but rather extract when he could not save the pulp alive.

Extraction of the first molar at any time after the second has taken its place is certainly not correct practice. Many dentists extract the first molar to relieve a crowded-condition and correct irregularities of the teeth. This I hold to be wrong. When it is done after the second molar has taken its position the result will interfere with the correct articulation of the teeth; usually by the second molar tipping forward so that the distal surface of the tooth becomes in part articulating with the opposing teeth. I have seen cases where the second lower molar has become almost useless, and yet the anterior teeth were no less crowded than before the first molar was extracted. Almost daily we see permanent injury inflicted on a patient by the extraction of this valuable tooth. Who has not observed how much better the conditions have been where the first molar had been saved—the arch more perfect in outline, the teeth of both jaws standing up to their work?

Dr. E. Andrieu, of Paris, does not think the first molar properly classed among the permanent teeth, but as an intermediate, bridging over the time between the temporary and permanent teeth. That time past, he assumes its usefulness is gone, and it should usually be extracted; and that the wisdom tooth is hindered in its eruption, usually, by the presence of the first molar, and caused to decay, giving an additional reason for its extraction. I am glad American dentists have outgrown such ideas.

We should early call the attention of parents to the first molars, that they may be prepared to attend to their needs. If we can make parents intelligent as to the teeth, we will not have first molars hopelessly decayed.

When to extract, is a question depending on many conditions, and the circumstances of the patient; but I believe, fully half that are extracted the patients would be glad to have saved if they were made to know it could be done; and if we do our duty as dentists we will give them knowledge of the facts, and the change of having the tooth saved. We should assume to be the surgeon, and act on our own intelligence, and not be governed by the ignorance of our patient.

—Dr. E. H. Allen, Freeport, in Illinois Society.

THE PERMANENCY OF OXYPHOSPHATE.

We find this gives better service in some mouths than in others, but much of this difference is from not having the proper conditions under which a cement can crystallize. We are more likely to find cement deteriorate sooner if we allow moisture to come in contact with the cement before it is sufficiently hardened. We are apt to think the cement is set completely, when we find by touching it with an instrument it seems to be hard, or at least hard enough to bear trimming or manipulating with the burnisher, but the cement is by no means in a crystallized state. In using phosphates we would get more permanency if we used greater precautions to prevent moisture for a longer time after inserting a filling; leaving it, say twenty-four or thirty-six hours, coated over with chloro-percha. You can use the pink, but in the front of the mouth sometimes that is unsightly; the white can be dissolved in chloroform the same as the pink, and you get the same solution. I find even after two or three days the filling will still be coated nicely with the gutta-percha. In crown and bridge-work, and work of that character, there is more difficulty on account of moisture. The giving out of cement in this connection is not caused by a want of dryness of the cement underneath the band at the cervical margin, but we get an exudate of mucus from around the teeth and from below the gum, and in that region where we do not detect it.

Where dryness can be obtained, a piece of this kind with an open band cemented on a tooth is as durable as when a closed band is used. But we can seldom get dryness; in spite of all our efforts we get exudation and moisture from below. But, besides this, oxyphosphate deteriorates with age; it must be comparatively fresh to be of first-rate quality, and it must be kept with great care.

—*Dental Review.*

A NEW MATERIAL FOR ROOT FILLING.—Dr. Allan says: I take nitro-cellulose, which is the base from which celluloid is made and is negative in all its reactions, and is not a material that would be acted on by any of the fluids of the mouth, or any fluid that would be found in the pulp-canals, and I dissolve it in two parts of ether to one of alcohol. It is admissible in all proportions. I dissolve enough nitro-cellulose in the mixture to form a thick paste, and having obtained this mixture and gotten my tooth ready for

filling, the rubber-dam applied, and the root thoroughly dried and cleansed, I first wipe it out with a mixture of two parts of ether to one of alcohol. I then take a small pledget of surgical cotton that has been soaked in a solution of one part to a thousand of bichloride of mercury, and dip it in that solution, carefully wiping off any surplus, and this cotton, wrapped around a fine broach, can be passed up into the finest canal. It readily adapts itself to the walls of the canal, and, so far as I know, makes a perfect root filling. On top of this I place ordinary gutta-percha, which, I think, takes up any little excess of the solution that the nitro-cellulose is dissolved in.

N. Y. Odont. So. report in Int.

WATT'S CRYSTAL GOLD.

EDITOR ITEMS:—Can Watt's Crystal Gold be placed in proximal cavities without considerable waste? What kind of shaped instruments are best adapted to carrying the gold to the cavity, and is an automatic plugger best for impacting it?

E. S. Carpenter, Marshall, Mo.

REPLY:—We have used Watt's Crystal Gold, No. 2, for more than twenty years. For the last fifteen years of our practice we used no other. We have found no trouble in its crumbling, or difficulty in carrying it to proximal cavities. Of course, if the aperture is small the pieces of gold must be small, for it must not be allowed to ball up; but after a little experience, this is not difficult to avoid. For instruments we prefer slightly serrated right and left curve, three sizes. A small point made by breaking the point of an old instrument, even an excavator, is good; and sometimes an entirely smooth point is just the thing—never a large surface point. These are for hand pressure, and for general use we prefer this to mallets, especially for proximal cavities. Hand pressure better allows force in all directions, even toward you, and is less liable to produce a rocking filling, which is always a bad filling, however well you may patch it up. There are also convenient instruments made for malletting, and for Bonwill's automatic plugger, which largely expedites filling where cavities are large and easily accessible.

But, during the last five or ten years, gold leaf pellets, etc., have been so much improved, that dentists have a rich field for choice in really good preparations of gold.

MORALS OF DENTISTRY.

A card was published by a dentist some time ago giving the names of prominent persons, among others a list of clergymen, from whom he had excavated teeth successfully and without pain. The dentist, in making the operation painless, has spoiled a proverb—"it comes as tough as drawing teeth." Still we are glad these clerical brethren, without suffering, have shed their masticatory instruments. We would have almost any one else hurt rather than they. They are not of the belligerent sort, who are constantly "showing their teeth," and we therefore could have no joy in their painful extraction. May the remaining incisors and bicuspid of these brethren be spared, and the time be long distant when Solomon's description shall apply to them: "The grinders cease because they are few." We now seriously call the attention of all young clergymen to the importance of ecclesiastical dentistry. When a minister's teeth begin to decay, his theology is apt at the same time to suffer. Poor teeth result in poor mastication; poor mastication in poor digestion; poor digestion in poor spirits; poor spirits in poor theology. Keep out of your mouth all poisonous dentifrices; do not wear off the enamel with your penknife or pin; annually submit yourself to the inspection of a wise dentist; twice a day at least, with a strong brush, keep your mouth as pure as the Gospel that drops from your lips. An untidy minister, neglectful of a full-length bath, his finger-nails unscrapped, his knuckles begrimed, his collar looking as if it had lost its way to the wash-tub, and his teeth tobacco stained, is as disgusting to us as the Egyptian mummies in the British Museum, which lie grinning with their decayed molars exposed, three thousand years of bad toothache. There might seem to be some excuse for the wicked postponement of dentistry if it were excruciating as it used to be. In boyhood, after crying all night, laudanum and camphor and everything else having failed, father took us to the village doctor. The doctor led us to the back piazza, and we sat down on the step. Whether we were promised candy, or a ride, or a new pair of boots, we do not remember, but suffice it to say the inducement did not seem adequate to pay for the sufferings proposed. The doctor brought out a long pair of forceps. There were in its very looks twists and grips, and clutches that made the toothache instantly stop. Then we argued the uselessness of extraction, because it did not ache a bit. They did not allow us to finish the argument. We were never more logical in our life. We had

laid down the two propositions of a syllogism. First, painless teeth ought not to be extracted; secondly, this is a painless tooth; but before we could draw the conclusion the doctor had begun to draw the tooth. We sitting on the step, and he standing over and above us, took our head between his knees, one knee tight against each ear. The memory of those knees will never fade away from us. They seemed to be the *ne plus ultra* of all knees.

He had hard work to get into our mouth, for it was so full of acclamation, or what boys call "holla," a word so expressive that we never found its synonym. But getting his hand on one side the unrestrained yell, and his turnkey on the other, he went in. At last the cold steel was laid aside the sore gums, and while we were clutching the doctor's arm, and biting his finger as hard as we could, and kicking indiscriminately in all directions, and giving him a look as much as to say: "Old fellow, if I live to get over this, won't I give it to you," the doctor, with knees still more tightly braced, gave one resolute pull, and it seemed as if the roots of the neck had given way, and the jaw-bone had forsaken its socket, and everything, down to the last joint of the toe, had been dislocated, grubbed out, smashed, caved in, and annihilated with a general convulsion. The operation was successful. The dentist only did his duty, and has been for some years in the good place where teeth never ache and they never use forceps; but my memory of him is not ecstatic. We do not take him into our hope of future recognition. We can think of five hundred people whom we would rather meet than he. But in this day things are made easy. According to the advertisement, tooth-drawing has passed into the luxuries, and the dentist's chair is almost as easy as the editor's.

—Editorial by Dr. T. De Witt Talmage in *Christian Herald*.

Amalgam in these later days, says Dr. Dwinelle, one of the fathers of dentistry, we all admit, is one of our best sheet-anchors. That is a good deal to come from me with my record behind me, because I have been perhaps a more stringent advocate of gold under all circumstances than most men. My method for years past has been to wash my amalgam very thoroughly with common washing-soda in water. I have often reduced the bulk, and presumably the weight, of my material nearly a quarter. This is especially true of old amalgam, which has become much oxidized by age. I think I thereby take out so much of this oxidized material, which is as black as ink, that a more perfect amalgam is obtained, and one that is comparatively stainless, in many instances

entirely so. I speak of this because I know many advocates of amalgam who do not wash it. I think the very fact of our reducing the bulk to the extent we do by washing is a sufficient argument in its favor. It is certainly a more cleanly, coherent, and solid substance, and are more apt to have complete success with it.

I use a heated instrument constantly in conjunction with amalgam, and when I am through, my filling is so condensed and finished so completely that it will endure immediately all ordinary mastication without breaking down.

—Cosmos.

IMPRESSIONS OF DIFFICULT MOUTHS.

As we all know, the dovetail *inter dental* spaces are the points of greatest difficulty. I have lately stuck a method by which the most difficult partial impressions are greatly simplified.

I had a bad case, requiring the two laterals and a bicuspid, all the palatal surfaces being very bulging. I tried several of the usual methods and failed. The question then occurred, Why not obliterate these spaces *by the teeth required*? So I first selected the teeth and ground them up, and after drying the adjoining surfaces I waxed them in place with hard wax. I easily took the impression, afterward removing and placing the teeth in their positions. This method requires no articulating out of the mouth, simply putting the wax plate in position and flasking the case. This week I took an impression of a difficult case for two laterals, the other teeth being much denuded at the necks. I ground up the teeth and simply sprung them into place, no wax being needed, and then easily took a good impression.

The advantages of this method are obvious. Besides dispensing with articulating and trying in, you can see exactly how the teeth are as to size, shape and shade, and they cannot move out of place, being securely fixed by the impression.

I would not recommend this method for universal adoption; it is chiefly for difficult cases, and in such I have found not only nothing better, but nothing half so good. It is especially applicable where there are small spaces. Where there are spaces articulating three or four teeth, it is not so good. I have used it with gum teeth and plain teeth, but it is better for the latter. I set them as firmly against the gum as possible. They can be removed afterward, trimmed a little, and set up still higher by having them a trifle long at first.

—Dr. A. G. Bennett, in *Dental Cosmos*.

INTER-PROXIMAL SPACES.

Dr. Hungerford spoke at the Odontographics, of Kansas City, the other day, of inter-proximal spaces substantially as follows :

We, who are observant, have always noticed that in a mouth where everything is normal, there will be found no inter-proximal spaces. We will find the gum tissue occupying the space up to the point of contact of tooth to tooth, beautifully and normally. Where inter-proximal spaces are found, on investigation we will trace, find the condition is brought about by caries, by calcic deposits, and other abnormal conditions, or by the work of the dentist. When these inter-proximal spaces are once created from any of these causes, I have never afterward found them filled and the normal condition entirely restored. The best that can be done when the condition has been the result of caries, is to finish fillings conforming to the normal or ideal, knuckling the proximated surfaces of the fillings to imitate the original form. Nature intended that the proximal sides should, up to the knuckling, be protected by the gum, and we only do our best when we use all our mental force, and all our manipulative skill in leaving the work so that this condition may return.

The consideration of this brings up the subject of the use of the tooth-brush. The brush ought not to be needed, and if the mouth is normal it would be useless, the nearer it approaches the normal the less use for the brush.

—*Western Dental Journal.*

[Our own teeth have always had inter-proximal spaces, yet healthy. In our dental practice we have found many such. It is so with my parents and all their children.—Ed. ITEMS.]

DR. KOCH.

Dr. Koch is 47 years old. After graduating at the University of Gottingen, he commenced practice in a little village near Hanover, but failed to make a living. He then tried Rackwitz, a small, malarious town in Prussian Poland, with no better results. Finally he settled in Wollstein, and in 1880 he attracted much attention by his analyses and medical testimony in the famous Speichert poisoning case. In 1882 he discovered the bacillus of tuberculosis, and in 1883 the germ of cholera while acting as the head of the medical commission sent by the German Government to Egypt and India to study the causes and prevention of cholera. On his return to Germany he received an honorarium of 100,000 marks, the rank of Privy Councillor, and the Rectorship of the Imperial Institute of Hygiene.

—*Dental Register.*

ROOT-FILLING.

EDITOR ITEMS.—I am a constant reader of your excellent journal, and look forward to its visits with great pleasure. Its difference from other journals makes it the more welcome and pleasing to the reader. I am always glad when the time arrives for the visits of the *Cosmos*, *ITEMS*, *Headlight*, etc. Each one is read and re-read. I notice much is being said of late on root filling. I have had an experience of three years, and have lost only one tooth that I know of. I extracted the tooth after vain attempts to quiet the pain, and sought earnestly for the cause of the trouble. The posterior root (of right inferior first molar) was filled properly, but the anterior was not, it being too small for a jeweler's broach to go to the foramen. The tooth is prepared as usual, enlarging where I can, washed out with hydrogen peroxid, and dressed with a mixture of iodoform, oil cloves and eucalyptol till all odors of decomposition have subsided; then I dry out with hot air (using the rubber dam, of course), and pump into the roots gutta-percha dissolved in chloroform, to which *iodoform* has been added; then put a cone of gutta-percha in and the root is sealed. If any one has ever used iodoform in the chloro-percha I have not seen it. The idea is original with me. If there should be left in the tubuli any of the products of decomposition I think the iodoform would neutralize it.

R. Y. Jones.

LOCAL ANESTHETICS.

At the Berlin Congress there were two modes exhibited of local anesthesia in sensitive dentine, both by Americans. Dr. Curtis showed an apparatus for employing nitrous oxid gas, by means of attaching a strong leather-cased piece of tubing to the bottle, the other end being fitted with a nozzle with tap for directing the jet of gas. It seemed to answer well in the only instance I saw it used, but owing to the bottle being one of those where the gas comes off very irregularly, in sudden bursts, and there being no quieter attached, the operator was unable to keep the blasts from going all over the mouth. It was also used for the painless extraction of a loose tooth; but here again the same unfavorable conditions, combined with the extreme looseness of the tooth, prevented a proper conclusion being formed. The principle of this operation was said to be "dehydration;" but how that can apply both to relief of sensitive dentine and the extraction of teeth cannot be well understood.

Dr. Niles showed a little instrument, the idea of which was to apply the vapor of alcohol to the cavity, and which is the invention, I believe, of Mr. Small, of Boston. A small piece of metal tube is filled with cotton wool saturated with alcohol, and slipped into a somewhat larger tube with a closed end, and a rubber cork prevents the vapor escaping. Through the closed end passes a fine piece of metal pipe with a bulb on it. It is heated in the flame till the vapor passes off. The nozzle is then held for a few seconds in the cavity, and the excavation proceeded with. Having some sensitive parts at the neck of my cuspids, I acted as patient, and it certainly removed the feeling when scraped with an excavator. Since coming home I have tried it on a few occasions, but my faith in its efficacy is not strong.

—*British Journal.*

TEMPORARY FILLINGS.—The teeth of women during gestation and lactation frequently require filling. Shall we use gutta-percha or oxyphosphate? In all proximal cavities reaching the cutting or grinding edges of teeth, we now use oxyphosphate. In labial or buccal cavities, we find gutta-percha most serviceable. In those proximal cavities of molars or bicuspid midway between the gums and the cutting edge, we use gutta-percha if the cavity is deep; if shallow, oxyphosphate. To fill the teeth at such times with gold or other metals, then amalgam, is a waste of time and of doubtful value. Temporary fillings are often required for children, and the same general rule may be observed. All oxyphosphate fillings should be varnished, after hardening, and the varnish should be dried.

—*Ed. Dental Review.*

TO CONTROL OCCLUSION.—Our text-books give us no end of rules: "Drop the patient's head as far back as possible;" "Tell him to swallow;" "Tell him to touch his back teeth;" "Don't tell him to bite back, or he will surely bite forward," etc.

My plan is as follows: For a full upper denture, I place the trial-plate and wax rim in the mouth ready for the imprint of the inferior teeth, then I simply place the tip of my forefinger at the front of the wax rim about where the lower teeth will touch, and ask the patient to close his mouth slowly. When the inferior teeth touch my finger, I make the request, "Don't bite my finger, but bite back of it." At once, if he has bitten forward, the jaw jumps back like a machine. As the teeth approach the wax I gradually take out my finger.

—*Dr. Harold Clark, in Cosmos.*

DEATH IN A DENTIST'S CHAIR FROM COCAINE INJECTIONS.

The *Journal fur Zahnheilkunde*, September 25th, 1890, reports a case of death in a dentist's chair from injections of cocaine into the gum, given for the purpose of inducing anesthesia for the extraction of roots of teeth. The patient was a woman twenty-nine years old, apparently very healthy, but nervous. The extraction was painless, and nothing abnormal noted. The operator withdrew from the chair to get some water for the patient to rinse her mouth with, and on his return found her motionless. Physicians were summoned and artificial respiration was practiced, but without success. The autopsy disclosed the fact that three injections had been given, which served for the extraction of three roots. The quantity of cocaine in each injection was one-third of a grain.

Dufournier reports nine cases of fatal poisoning, but none of them happened to dentists, and the *Journal* thinks the case it reports the only one occurring in the practice of a dentist. This may be true, but we have heard of nearly fatal cases. The action of cocaine is so very uncertain that one must use careful judgment in its ministration. It is not safe to inject a larger quantity than one-half or three-fourths of a grain, especially into vascular tissues, because its effect is carried to the heart more rapidly and the greatest effect is produced.

—*Dental Register.*

A METHOD OF SAVING WEAK WALLS OF BICUSPIDS WHICH HAVE BEEN USUALLY SACRIFICED FOR CROWNS.—Miss B. had a right upper first bicuspid with nothing of the crown remaining but a frail outer wall with cusp and an inner wall barely high enough to support a matrix.

I filled the root canals, leaving the principal part of the pulp chamber to serve as a point of anchorage for the amalgam. Then I cut off the cusp below the line of possible occlusion with the lower teeth, beveling the stump outward. Over the end of the stump and to the cavity wall a piece of thin platina was burnished. Removing this carefully, I flowed gold on the upper surface to form a cusp, applied again and reburnished to the cavity and edges; solder was then flowed over the face of the platina to make it rigid; it was then carried to position with thin cement and held firmly till set. A copper band matrix, previously made to fit the tooth, was now applied and filled with amalgam, rather dry, and

condensed with the mallet. The matrix was left in position three days; it was then removed, and the filling and cusp finished with stones, strips, and disks.

Result—A natural wall preserved at point of ordinary observation, a gold cusp scarcely noticeable, the form of which supports the wall against fracture; inwardly solid amalgam, except a short piece of the natural wall. The whole promises well for usefulness.

—Dr. G. Newkirk, *Review*.

WHO INVENTED THE CHASE COMBINATION PLATE?

EDITOR ITEMS.—In March ITEMS, Dr. H. P. Haskell, of Chicago, speaks of the "Chase combination plate," as having been patented. I constructed in 1863, in Syracuse, N. Y., a plate of this kind, which I believe was the first ever worn. In 1864, *I think*, (but am not positive as to date) the State Society met at Niagara Falls, where I exhibited a plate to a number of the profession present, and no one had ever seen a plate of the kind before.

During my stay in Syracuse, I constructed many combination plates, and a member of the present Congress from this State is wearing a plate inserted in 1865.

My first plates were an entire gold plate, using rubber only to attach the teeth to the plate. Later, my plates covering only the palatal portion of the mouth, rubber supplying the rest.

It will now be in order for any dentist who has made combination plates previous to the year 1863, to come forward and make the fact known, as I do not wish to claim another man's thunder.

Chas. H. Campbell, Cooperstown, N. Y.

In view of the threatened dearth of India-rubber and the rapid decimation which is going on in the available gutta-percha trees, the statement that a supply in Australia of what may, in some respects, be an effective substitute, is of interest. The Australian rubber is said to have been first observed in little sand hollows, and resembled patches of dried leather. It was found generally in swamps, and the theory of its production was that it had resulted from the overflow of petroleum or rock oil. There is still a wide difference of opinion as to the origin of the substance. Some scientific authorities ascribe to it a vegetable origin and regard it as a gum exuding from a plant of lichen. Others assign to it a subterranean origin, but the known facts concerning it are not corroborative of this view.

—*Dental Review*.

Monthly Gossip.

BY WM. E. BLAKENEY, D.D.S.

THE doctrine of spontaneous generation has received a hard knock in Tyndall's "Dust and Disease."

A HYPNOTIST of the "Embryonic M.D.," variety is the latest wonderment in the hallucination line. See ITEMS for March, page 136.

ITEMS of interest to the profession, suitable to this department, will be thankfully received by the writer, to whom communications may be addressed.

THE reflex relation existing between the teeth and eyes, happily, is now receiving scientific attention, and we may expect valuable developments in this line of investigation very soon.

A PAPER entitled "Acids and Alkalies," read before the New Jersey State Dental Society, deals, in a scholarly manner, with a subject of vital importance to the profession.

MR. CROCKER, the California Railroad King, has a molar tooth in which four rose diamonds are imbedded—the cost of the operation being \$1,500.

THE late Dr. W. H. Atkinson, was to have read a paper before the American Medical Association, Washington, D. C., this month, on "Adenoid Growths."

OPERATIONS for cerebral strabismus ought to be common nowadays, if Dr. Holmes is right in characterizing cranks as possessors of squinting brains. The ailment is purely cerebral, and, when not chronic, ought to yield to proper treatment.

PROF. VIRCHOW hit the nail on the head when he said: "The American world to-day excels in surgery, midwifery and dentistry. What the Germans know about dentistry they learned in America." The Professor is equally logical in his praise of American oculists.

THE Methodist Episcopal Church has expended \$3,000,000, during the past twenty-five years for educational purposes in the Southern States. There are forty-three institutions, with three hundred and fifteen teachers, and nine thousand pupils. Schools in dentistry and pharmacy are included in this enumeration.

"FOR nearly fourteen years," says a writer in the *Journal of Dental Science* "I have made a practice of lining cavities, where necessary, with a mixture of carbolized rosin and the oxychlorid of

zinc." We use asbestos paper moistened with campho-phenique, and it generally answers an excellent purpose.

DR. L. H. HENLEY recommends the packing of joints in vulcanite work with gold foil, to avoid discoloration. A much easier, cheaper and equally effective plan is to use a good quality of cement. Grind the joints V-shape, and after filling with the cement, allow it to harden thoroughly before packing the case. The outer surface of the joints should be covered with the cement before inserting.

"WHERE it is impossible to exclude moisture from the cavity during filling," says the editor of *Archives*, "wipe the cavity with creosote and force the filling in position, being sure there is a good anchorage. Work of this kind," he thinks, "will last a lifetime." It is a good plan to wipe the cavity with creosote in all cases before filling the tooth.

DR. J. A. THORNTON has a novel method of dispatching a nerve after arsenious acid has been applied to it. The doctor likes to have the nerve fried! His formula is "to take an Evans' root-drier, heat it nearly red hot, and push it into the canal." One point gained by this method is that it cooks the nerve and tortures the patient at the same time.

"THE way to discriminate an abscess," said the late Dr. W. H. Atkinson, "is to observe where the nutrition in the connective tissue is so sluggish as to set up a retrogressive action in the part, and induce the pulp either to die or deposit secondary dentine or pulp stones, or atrophy; and then, if there is a depleted condition of the general system, the mischief might locate itself at the weak point."

PEARSON & Co., of Hamburg, publishes the following analysis of creoline, about which an instructive paper by Dr. W. H. Potter appears in the *International* for April:

	Per Cent.
Neutral hydrocarbonates.....	66.
Phenols (without carbolic acid)	27.4
Organic bases.....	2.2
Ash.....	4.4
	<hr/> 100.00

"THE combination of cocaine and antipyrine in solution," says the *Medical News*, "is said to act as a powerful local anesthetic on the gums, also on sensitive dentine. The anesthesia is more lasting and more complete than when cocaine is used singly." Dr. Martin, in *L' Union Medicale*, suggests the following formula, which he has used with great success:

℞. Hydrochlorate of cocaine.....	gr. $\frac{3}{4}$
Antipyrine.....	gr. $\frac{v}{j}$
Distilled water.....	℥ xvj. M

DR. S. E. DAVENPORT reports a very interesting case in which the entire enamel face of the right superior central had split off from the rest of the tooth. By the use of a narrow band of gold, a good oxyphosphate and a rivet of gold and platina, the tooth was restored to a shapely appearance and usefulness. Dr. Norman W. Kingsley claims to have performed similar operations fifteen years ago.

THE *Dental Mirror* says: "I find when the first bicuspid has two roots, there is a portion of the pulp chamber which is common to both canals. Where you find a figure 8 in the first bicuspid it is safe to unite them as far as the bifurcation. Then you can explore with a flat, untempered broach, and find whether it is a single or double rooted tooth, and so determine whether it will be safe to unite these two canals further down."

THE use of cocaine hyperdermically for deadening pain in dentistry is being condemned on every hand. A niece of Lydia Thompson, who was thus recently operated on by a Detroit dentist, is said to have all the muscles of her face paralyzed, and though the cocaine was used over three months ago, the most skilful physicians have not been able to relieve her from its results. "A single injection of cocaine," says a scientific authority, "even in a small dose, may not only produce immediate toxic symptoms of a grave character, but may give rise to symptoms persisting for several months. These distinct symptoms are analogous to those sometimes seen immediately after the injection, viz.: Obstinate headache, insomnia, numbness of the extremities, attacks of faintness, dizziness, prostration, loquacity, and a state of great agitation. These accidents are chiefly observed in excitable subjects."

DR. B. OSCAR DOYLE in an able paper read before the Kentucky Dental Association on "Gold Crowns and Bridge Work," speaks flatteringly of the use of gutta-percha, as a material for setting gold crowns and bridge pieces. The doctor's method is, have the root thoroughly dry, and coat with a thin solution of chloro-percha, then dry with hot air, warm the artificial crown to bring the gutta-percha placed in it to a proper consistency, and carry it to its position rapidly with hand pressure. An opening, he says, should be made in the crown for escape of excess material, and when the crown is in position, chill thoroughly with ice water, and fill the opening in the crown with gold wires, or foil. The doctor cites a case of bridge work of some months wearing, secured in this way, that required repair, and which could not be removed without cutting the appliance to pieces.

For Our Patients.

Say, would you have one word define
The greatest ill you can devine?—
Worst horror flesh can ever know?
Worst pain disease can ever sow?

The saddest curse I ever knew
Resulting from the fruit that grew,
As curse of flesh, on Eden's tree,
Was tooth-ache! T. B. W.

A DECIDUOUS MAN.

At a recent meeting of the Chicago Medical Society Dr. J. Frank reported a case where a man every July shed his skin. He would be taken with feverish tremors, increasing almost to paroxysms. Then he undressed, lay down, and within a few minutes the skin of the chest began to turn red. The redness rapidly extended over the entire skin, and the feverish tremors continued uninterruptedly for about twelve hours. Then he arose, dressed, and walked about in perfect health. The skin now commenced to peel, and ten hours later it began to come off in great patches. From the arms and legs it could be pulled off exactly like gloves or stockings. As the old skin came away a new epidermis, as soft and pink as a baby's was revealed. This new skin was very sensitive; the patient had to wear softened gloves and moccasins for about a week. After the old cuticle had been entirely removed, the finger and toe nails began to drop off—new nails literally crowded them out. Finally the change was complete—the man had a new skin and a new outfit of nails, and was ready to return to the mines. The shedding began in his first year of mine working, and recurred every July thereafter.

—*Medical Record.*

The practice of leaving roots in the mouth when a denture is to be inserted is happily less frequent than in past years, but still far too common. The presence of rapidly-decomposing material in and around these roots keeps the mouth in a filthy condition, and is detrimental to the general health, which in itself is a sufficient argument for their extraction. In addition to this, they are a prolific source of facial neuralgia, the cause of which is obscure to the

physician who knows nothing of these roots. He probably inquires into the condition of the teeth in looking for the cause of the neuralgia, but when he sees a full upper and lower denture he very naturally does not look further in that direction. The patient is then obliged to swallow numerous doses of medicine, nauseous and otherwise; the pain and suffering he endures continue; the physician is at his wits' end, and the dentist who left those roots in place *ought* to suffer torments from an uneasy conscience.

R. M. Sanger.

ART AND DENTISTRY.

A good dentist should be a man of great refinement, of artistic conception, with a true sense of the proportion of things, and of the harmony of colors. We have only to look at the teeth people often wear to notice that often this is not true. It must be remembered that in nature there is a great beauty in the irregularities, in what is often called the ugliness of shape and color. Because an even row of very white teeth is the ideal, this does not prove that such teeth suit every person. What can be more ghastly than an angular irregular featured person with a dark complexion, wearing a double row of splendid white teeth? What is more ridiculous than one white, spotless artificial tooth standing in the midst of yellow and partially decayed real teeth? Or again, what a lop-sided effect is produced if teeth on one side of the mouth grow irregularly, while, on the other side, artificial teeth have been fixed up in regimental order. Yet few people needing artificial teeth, have the good sense to ask for teeth the real teeth they are to replace.

If we have not ideal teeth, the probabilities are that they are many other things in feature and complexion which also are far from being ideal; and the introduction of ideal teeth, where the surroundings are anything but ideal, is no improvement. It creates a discordant note, destroys the harmony which prevails even in ugliness, and renders that ugliness more evident and more unpleasant. But it requires a high conception of true art to thoroughly appreciate these principles and apply them successfully in practice. It is, therefore, not surprising to find that distinguished dentists are the constant and appreciated friends of men of art and of letters.

—Exchange.

"Uncle Pomp," said Colonel M. to a former slave, "I hear some of you darkies down on the lower place are afflicted with the itch."

"Bein' as it's you, boss," replied old Pompey, hesitatingly, "I mus' confess dat de Lawd has seen fit to afflict us dat way fur a fac'."

"Ah! Doing anything for it?"

"Yes, sah—oh, yes, sah."

"What?"

"Why, we—re—we am scratchin' fur it."

—Dixie Doctor.

A Brooklyn dentist has to-day an illustrated sign outside his office which is quite unique in its way. It portrays a "victim" in the act of smiling at the dentist, who has just extracted an enormous tooth.

Above the sketch are these lines:

I wish to *draw* attention
To the *drawing* underneath;
If you will *draw* a little check
I will *draw* your teeth!

I believe the artist must have drawn on his imagination as well as drawn the sign. That the sufferer should smile at the dentist sounds too thin; yet the artist shows the tooth out, and the man with his hand in his pocket for the fee.

"Is Mr. Doctor in?" said a Hungarian, on entering my office.

"I am at your service, sir," we replied.

"I have a pain, sir, next to behind, up stairs; go head."

This reminds us of our experience among the Hoosiers of Indiana, when I was young, and Indiana was not as civilized as now. I went down there from Michigan to teach a singing school. This was a trial evening.

"Can you sing Moriah?" said one of the class.

"Where is it?" we asked.

"It is the latter end of the center," he replied.

All dentists are pioneers, and before they can make a proper clearing for substantial work they generally have to grub out the roots.

"Say, boy!" he called to a lad who was passing the doorway to a dentist's office, on Woodward avenue.

"Yes, sir."

"I'd like you to go upstairs and see if the dentist is in."

"Yes, sir. Got the toothache?"

"Just a little—nothing of any consequence. Didn't really have to come down, you know, but thought I would."

"See if he's in, eh?"

"Yes. He won't be in at this hour, I don't suppose, but you can see. Aches just a trifle, and I suppose I am foolish enough to pay attention to it. Just look in and see if he's there, and here's a quarter for you."

The lad ran up and took a look, and the man faced the street and began whistling. In a couple of minutes the messenger clattered downstairs.

"He isn't in, of course," observed the man, "and I might as well go home. I didn't ex—"

"Oh, but he is in!" interrupted the lad.

"The deuce he is!" shouted the suffering man, and, bracing his hand against his jaw, he began climbing the weary stairs to the chamber of horrors.

"OH, MAY!" exclaimed a six-year-old tot to her playmate, enthusiastically, her face aglow with pleasure, "Frank's got an awful toothache, and ma says if I will coax him to have it took out by a dentist she'll give me a bright, new, silver dollar, won't that be too jolly for anything?"

After pausing a moment, her countenance changing to a sorrowful expression, she added: "But he won't have it out, though, for nobody. Ain't he real mean?"

"How can you tell the age of a hen?" said a father.

"By the teeth," replied his son.

"A hen hasn't any teeth, you idiot."

"No, but I have," said the boy.

Some dentists are never happier than when conscious of relieving pain, or of doing what gives pain in a pleasant way. They are so full of affability, sympathy, and insinuating gentleness, one can really be hurt by them and call it a pleasure.

Book Review.

P. Blakiston, Son & Co., the Medical Publishers of Philadelphia, announce for early publication, "A Handbook of Local Therapeutics," being a practical description of all those agents used in the local treatment of disease, such as ointments, plasters, powders, lotions, inhalations, suppositories, bougies, tampons, etc., and the proper methods of preparing and applying them.

The diseases which chiefly require local treatment are those of the respiratory passages, ear, eye, skin, together with some general surgical affections, including the diseases of women. Therefore, that the various uses of each remedy may be thoroughly set forth, the following gentlemen have assumed the authorship: Harrison Allen, M.D., Emeritus Professor of Physiology in the University of Pennsylvania; Laryngologist to the Rush Hospital for Consumption; late Surgeon to the Philadelphia and St. Joseph's Hospitals. George C. Harlan, M.D., late Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine; Surgeon to the Wills Eye Hospital, and Eye and Ear Department of the Pennsylvania Hospital. Charles B. Penrose, M.D., Surgeon to the German Hospital; Instructor in Clinical Surgery, University of Pennsylvania; and Arthur Van Harlingen, M.D., Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine; late Clinical Lecturer on Dermatology in Jefferson Medical College; Dermatologist to the Howard Hospital.

Each remedy will be taken up in alphabetical order, and after a succinct description of their pharmaceutical properties, by Dr. George I. McKelway, will be considered with reference to the local treatment of the affections above outlined. The authors believe that the information contained in this work will not be found elsewhere. The activity in the various lines of special medicine is one of the most striking phases of the times, and has materially changed many of the older methods of treating disease by local means. The greater part of the literature which has appeared is not accessible to most physicians. The Handbook, it is believed, will be of value to general practitioners as well as to those who, like themselves, are especially interested in sub-divisions of the clinical field.

The work will form a compact volume of about 400 pages, arranged in a manner to facilitate reference, and containing, besides the usual index, a complete index of diseases, that will greatly enhance its usefulness.

Current Notes and Items.

W. H. Schieffelin & Co., New York, believe aristol is the coming antiseptic.

The College of Dental Surgery, of Baltimore, gets \$500 a year from the city council for medicine.

In poisoning or excoriation from carbolic acid there is no antidote, perhaps, better than glycerine.

Dr. Hewitt and others, of England, are trying a mixture of 10 to 12 per cent of oxygen with nitrous oxid as an anesthetic.

To acquire gold the dentist must first give it to his patients, though he has to actually force it on the recipient. Sometimes the persuasion has to be so vigorous, it comes to blows and to gagging.

Mrs. Jane B. Fowler, of Boston, has sued Dr. W. K. Mayo for \$2,000, because his student pulled the wrong tooth for her. Dr. Mayo, doubtless, will advise his student to go slowly in the future, if he wishes to "draw."

It is said to be a fact that seventy-five out of every hundred people chew their food on the left side. Why and wherefore is this? And what is the explanation? Let some scientist who knows everything explain.

Judge Dugro, of this city, recently complimented a class of women lawyers for having "passed a better examination than any class of men students he ever knew." Neither of these ladies belong to a baseball or yacht club.

Dr. E. Cole, a pioneer dentist, and one of the members of the old Vigilance Committee of San Francisco, Cal., died during October, 1890, at his home in Oakland. He was a prominent Republican, but several times declined office.

Dr. W. O. Robinson, of Parker, S. D., sends us a blazing advertisement of a mountebank, who warrants any one success in filling teeth by using his wonderful cement. It is gutta-percha, of course, and no preparation of the tooth is necessary.

Arsenic, Dr. Kelsey, of Marseilles, France, says is practically the best pulp destroyer we have. He thinks carbolic acid, mor-

phia, cocaine and kindred drugs render the part more convenient, and may diminish pain and after-trouble, but that arsenic is the essential ingredient.

Dr. J. D. Lowrey, of Pottsville, Pa., says coal oil is the best thing he has found to clean the hand that has become stained and blackened in laboratory work. After washing with a little of this poured on the hands, he uses soap and water, which he says removes the smell of the oil.

The *Ohio Dental Journal* asks, Why does copper amalgam squeak? We know!—in its squeaking voice it is crying, “Take me out! take me out! I am a failure! I ought to turn black, but I can’t in this mouth; take me out!” Brethren, take heed to the voice of the copper amalgam.

An Altoona lad has been insensible for several days from excessive cigarette smoking. As a means of reducing the boy of the . to a , tose condition the cigarette has no =.

Chauncey M. Depew says he used to smoke twenty cigars a day till he was worn out. Then he cut the practice dead, and now smokes none at all.

Dr. Abiel Bowen, of Medina, sends us an old rubber plate to show his method of prosthetic book-keeping. On the back is the doctor’s monogram, with the date of its manufacture. These figures are made in the plaster before the rubber is pressed into position. Sometimes this saves him trouble, and is always a means of identifying his plates.

Surgical skill has scored another wonderful triumph in New York city. Three patients were admitted to the German Hospital about three months ago, suffering from the most advanced stage of kidney disease. The organs were successfully removed, and the patients, whose cases were considered hopeless when they entered the hospital, are restored to perfect health. If we can live and be healthy without kidneys, what is the use of being burdened with those organs, anyway?

Many dentists not skilled in the manufacture of gold crowns, or not having the facilities for their construction, would use them if they were already prepared for their use, and one could easily be selected for each case. Here the Rynear gold crowns seem to come in place. They are formed of one unbroken piece, so that no soldering is necessary, and they so delicately vary in their shapes and

sizes, and their walls or bands are so pliable, that with a set of forty-two the dentist is sure to have a good fit for every case.

After his nice gold fillings were completed, he looked into the dentist's mirror, and smiled complacently. They showed beautifully, and he made up his mind his life should now be devoted to smiling, that all he met might see his beautiful teeth. As he turned to the dentist to express approval of the work, he was handed his bill.

"Forty-five dollars, if you please," said the dentist.

How quickly that smile turned to a frown. He was dumb-founded. He had never thought of the cost; or, if he had, it was only to calculate he had lost a day at wood-chopping, and that his bill might be double what his own time was worth. How he wished those fillings were in some one else's teeth!

Drs. Northrop, Carr, Streeter and Abbott are said to be the leaders in remunerative dental practices in New York and vicinity. One dentist, it is reported, collected \$23,000 in 1890, and nearly an equal amount yearly for the last twenty-five years. Dr. Dwinelle, perhaps, leads in the largest New York practice, with the most uniform and satisfactory fees. We are told that Dr. Main says he has averaged \$20,000 a year, for twenty years. But, we presume, as enormous as is this income for a dentist, Dr. Thomas W. Evans, of Paris, is the most conspicuous example of a prosperous dental practice; he is believed to be worth \$12,000,000. Dr. W. W. Allport, of Chicago, has probably taken as much money at his dental chair, during the last thirty-five years, as any dentist in the West.

The *Tribune* quotes an eminent physician as saying: "So long as men uncover their heads in theaters, halls, and so forth, just so long catarrh will be a national ailment, and men suffer with facial neuralgia and bronchial affections. There is no more sense in removing his hat than there is in a woman laying aside her bonnet." The little silk caps now becoming common should be made universal whenever a draught is felt. The pure-air fiend will slay a score for his own comfort. We thank Dr. Alonzo H. Quint for his article in the *Congregationalist* on this subject. Impure air is pernicious. Draughts are dangerous. Two or three grades of silk caps put on according to necessity whenever there is draught, or when sitting without exercise, in car, church, hall, or any place of business, or private rooms, may make the difference between life-long invalidism and comfortable health.

The New York Dental Society meets at Albany, May 13th.

The Georgia Dental Society meets May 19th, at St. Semon's Island.

The Harvard Odontological Society is now thirteen years old. It is a dignified, scientific body.

The twenty-seventh annual meeting of the Illinois Dental Society is at Bloomington, Tuesday, May 12th.

The next annual meeting of the Colorado State Dental Association will be held in Denver, June 5th to 8th, 1891.

The Dental Societies of Pennsylvania and New Jersey both meet this year at Asbury Park, N. J., July 16th and 17th.

The American Dental Association is to meet this year at Saratoga Springs, commencing on the first Tuesday in August.

The Central Dental Association, of Northern New Jersey, still flourishes. We can commend it for everything but its smoke.

British Columbia has a dental association; it was organized at Victoria last February. Truly, dentistry and civilization march together.

The Vanderbilt University Dental Department, at its last session, graduated forty-four students; matriculates, one hundred and thirty-five.

The Alumni, of the New York College of Dentistry, is another New York association to be commended for its zeal, concord and studious progress.

The proceedings of the last meeting of the National Association of Dental Faculties may be had free, by sending a card to J. D. Patterson, Kansas City, Mo.

Texas has its dental gathering at Wasco this year, May 26-30. This ought to be a big gathering, for it embraces more territory than all England—nearly as much as all Europe.

The Pennsylvania College of Dental Surgery at its last session graduated ninety-four students; there were two hundred and forty-eight matriculates. The prospects of the coming session are quite as encouraging.

The Missouri Dental Association meets at St. Louis this year on July 7-10. This is a live association, and it is sure to benefit every dentist who attends. We purpose making our arrangements so as to be there ourselves.

The Royal College of Dental Surgeons, of Ontario, has just closed a successful session. Twenty-seven were graduated; matriculations, sixty-eight. The address to the graduates was given by Prof. Taft, of the dental department of the University of Michigan.

The Southern Dental Association has its next meeting at Morehead City, N. C., commencing August 11th. This is a strong organization and is always sure to have interesting and instructive meetings. Its program for the coming meeting, and the strong support it has, promises rich results.

The Dental Department of the University of Maryland, at their last session had one hundred and sixty-three matriculates, and graduated sixty-four students. This tells well for the school, for it must be borne in mind that this University takes the foremost rank, in all its departments, for thoroughness in its course.

The Florida State Dental Association will hold its annual meeting in Jacksonville this year, beginning on the 2d of June, and continuing till the 4th. An elaborate program has been prepared, including papers, clinics, etc. The State Board of Registration and Examination will meet at the same time.

The Stomatological Club is the queer name of a new society in Buffalo, N. Y. The society is composed of dentists and physicians. Subjects of practice are not to be made prominent. The chief objects of discussion are to be the pathology of the oral cavity, comparative dental anatomy, and kindred, scientific subjects.

The old Baltimore Dental College is still in the foreground. It has just closed its fifty-first session, which makes this college the oldest dental college in the world. That it keeps pace with all the newer colleges in its popularity, dignity and general reputation for thoroughness is evinced by its large classes and the good will of its thousands of graduates.

The Indiana Dental College is still prospering, as nearly everything Western that is worthy is sure to prosper. The Alumni Association of this college has just had a reunion that, as far as we can judge from its program and the distinguished attendants, vied with anything our older colleges could show. Long live the Indiana Dental College and its honorable alumni.

DR. T. B. WELCH.—The Executive Committee have decided on Saratoga Springs as next place of meeting of the American Dental Association, commencing first Tuesday in August, 1891.

It is hoped by the committee that each society will send delegates, that we may have a full representation from all parts of the United States.

Program and arrangements to be announced later.

At the annual meeting of the Chicago Dental Society, held Tuesday evening, April 7th, 1891, the following officers were elected for the ensuing year: President, D. M. Cattell; First Vice-President, J. W. Wassall; Second Vice-President, E. M. S. Fernandez; Recording Secretary, L. L. Davis; Corresponding Secretary, T. L. Gilmer; Treasurer, E. D. Swain; Librarian, A. W. Harlan; Executive Committee, J. A. Dunn, G. H. Cushing, E. Noyes; Board of Censors, B. S. Palmer, G. J. Dennis, R. M. C. Paine.

The fifteenth annual meeting of the Vermont State Dental Society was held in Rutland, March 18-20. The new officers are:

President, W. S. Curtis, West Randolph; First Vice-President, G. F. Cheney, St. Johnsbury; Second Vice-President, A. J. Parker, Bellows Falls; Secretary, Thos. Mound, Rutland; Treasurer, W. H. Munsell, Wells River; Examining Committee, E. O. Blanchard, West Randolph; W. H. Wright, Brandon; W. H. Kingsley, Middlebury; State Prosecutor, G. W. Hoffman, White River Junction.

Next meeting to be held in Burlington, third Wednesday in March, 1892.

At its last session, the Missouri Dental College graduated twenty-nine students; matriculates, ninety. The following graduated with special honors:

"The St. Louis Dental Society Prize."—An elegant gold medal, to William T. Rutledge, D.D.S., receiving the highest vote on final examination.

"The J. W. Wick Prize."—Twenty-five dollars in gold, to George D. Kennedy, D.D.S., receiving the highest vote on final examination.

"The S. S. White Dental Manufacturing Company Prize."—A set of Varney Pluggers, to Reuben G. Porter, D.D.S., excelling in operative dentistry.

"St. Louis Dental Manufacturing Company Prize."—A Laboratory Lathe, to James F. Wallace, D.D.S., for the best specimen case of artificial teeth.

AMERICAN MEDICAL ASSOCIATION, SECTION OF ORAL AND DENTAL SURGERY.

The forty-second session of the American Medical Association will be held in Washington, D. C., on Tuesday, Wednesday, Thursday and Friday, May 5th, 6th, 7th and 8th, commencing on Tuesday at 11 o'clock A. M.

The following is a list of essayists (with subjects) who have promised to prepare papers for the Section of Oral and Dental Surgery:

Address of the Chairman of Section, Dr. Eugene S. Talbot; Adenoid Growth, Dr. W. H. Atkinson; Treatment of Fractures of the Maxilla, Dr. Wm. Carr; Genesis of Contour Fillings, illustrated, Dr. Geo. S. Allan; The Teeth of Invertebrate Animals, Dr. A. H. Thompson; A Study in Comparative Dental Anatomy, Dr. Wm. H. Potter; Rheumatic and Gouty Diathesis as manifested in Diseases of the Paridentul Membrane, Dr. John S. Marshall; Dental Infirm-ary Patients—the Use and Abuse of Dental Charity, Dr. Richard Grady; Growth of the Cementum, Dr. R. R. Andrews; Remarks on Incipient Necrosis and Caries, Dr. J. L. Williams; Choice of Therapeutic Filling Materials, Dr. W. W. Allport, Dr. J. Taft; Thorough Dentistry *vs.* Partial Dental Surgery, Dr. J. Y. Crawford; ———, Dr. Thos. Fillibrown.

The following are the prize men of the last session of the Ohio College of Dental Surgery:

Gold medal, best general examination, Frank Riley Chapman, of Ohio.

Honorable mention.—1st, B. B. Cory, of California; 2d, F. E. Favret, of Ohio; 3d, J. F. Wenier, Jr., of Michigan.

Gold medal, best attainments in operative dentistry, Edward A. Mehaffey, of Texas.

Honorable mention.—1st, F. M. McCarty, of Indiana; 2d, A. A. Kumler, of Ohio; 3d, W. S. Leeds, of Indiana.

Gold medal, mechanical dentistry, Edward A. Mehaffey, of Texas.

Honorable mention.—1st, J. M. Chase, of Ohio; 2d, A. C. Smysor, of Ohio; E. C. Meyer, of Indiana.

There were seventy-five graduates, two hundred and ten matriculates.

Editorial.

WM. H. ATKINSON, M.D., D.D.S.

This eminent man, whose portrait we make our frontispiece, has just fallen a victim to the grip. He was seventy-six years of age. For twenty-five years he was one of the most prominent members of the dental profession.

His father was a Methodist minister, and his Quaker mother was not only a faithful parent and a strict, successful disciplinarian to her children, but a physician and an angel of mercy to the sick of all the neighborhood.

Those who have known Dr. Atkinson in his best efforts as an orator and a teacher, or even in social converse and professional intercourse, need not be told that he early imbibed the spirituality, philanthropy and sympathy which constantly surrounded him, and that much of these remained with him. He frequently spoke of those things with pride, and claimed to be still "influenced by the angels." But even if he did not allude to them, his efforts were so evidently from his profoundest convictions, and from a consciousness that his whole course of life was wrought out by the higher powers, that the very tone of his voice, the enthusiasm of his manner, and the character of his utterances, gave conviction that what he said he breathed from his very soul, if not from inspiration.

One who does not believe in a "Providence that shapes our end," will see in Dr. Atkinson's life, up to the full maturity of manhood, little but unfortunate surroundings in his youth, vacillation in his young manhood, and failures in nearly all his early professional struggles. Newtown, Pennsylvania, the place of his birth and early training, was destitute of those advantages for culture, or even for an ordinary education, that are generally supposed essential to a literary and professional manhood; and when he was finally apprenticed to a tailor, a casual observer would have said this sealed his fate to the drudgery of a menial occupation. But

by his previous hard work with the ax and the plow he received brawn, and now, by the needle and the scissors, he obtained delicate manipulation. The turning point of his life was going to Meadville, Pa., where he became a student in medicine to Dr. Wm. Woodruff, whose estimable daughter he married in 1840. He graduated in medicine at Willoughby University in 1847, and made several locations for practice, but finally became partner with his father-in-law in Meadville. In 1859 he graduated in dentistry at the Ohio College of Dental Surgery at Cincinnati. His changes were so many his best friends despaired of permanency of character or pursuit.

But all these driftings proved providential leadings, for in each phase of his experience he was unconsciously preparing himself in those varied qualities which matured into a broad, well rounded, useful life. Even after he came to New York in 1861, he became only the salesman for S. S. White in his dental depot. The next year we find him in the house of Dr. Wm. H. Allen, 18 West 11th street.

But the next year, at the age of 47, when long and thorough study, patient and intricate practice, and refining, maturing discipline had prepared him, then came the golden opportunity of his life. Though he had shown such lack of business qualities, and though he had not publicly, or at least not extensively, exhibited extraordinary powers, aptitude or skill in his profession, many eminent dentists and successful business men who knew him intimately, discovered in his character, learning and experience all that should go to make up an eminently successful dental practitioner, teacher and leader. They, therefore, united to assist him in the purchase of the substantial brown front at 41 East 9th street, and here he lived and died. This became emphatically an open house for all the profession. His laboratory and his operating-rooms, his parlors and his dining room, and even his bedrooms for dentists from a distance, were common property. We have sometimes refrained from calling on him when in New York, because he was always so urgent we should remain to tea, then for the night, and even then entreating us to stay longer to witness some rare case at his dental chair. Of course all this was pleasant and profitable, and

we occasionally indulged in the luxury ; but we often felt we were imposing on good nature, though his wife and family were not behind him in genial and generous hospitality. His wife died but a short time before him, and so did two of his *tr  e* sons.

In his efforts to broaden the sentiments of the profession, and to raise it to dignity, liberality and learning, none have excelled Dr. Atkinson. In advancing its interests, uniting its members, encouraging sociability, open heartedness, and free interchange of opinions and methods, and in directing its discussions, opening its laboratories, and making even operations at the dental chairs free to all professional callers, he has been to the dental profession an honored father, a welcomed teacher and a successful general.

Though for twenty years his income was large, he was too generous to become rich, and though his charges for his services to the wealthy were fabulous, and his office crowded, he did so much as charity, and spent so much of his time throughout the country for the good of the profession, he died poor.

His influence for good was felt throughout the profession. The establishment and success of a school of microscopy under Prof. Heitzman was characteristic of his energy, patience and perseverance, but it commenced a new era in physiological and pathological studies.

He found our workmen a lot of tooth tinkers ; he left them a dignified profession. He found them jealous of each other, secretive and isolated ; he left them a social brotherhood. He found them with scarcely a school or a society ; he left them with colleges and associations in every direction—a learned profession, the peer of any other ; and much of all this change has been brought about by his indefatigable labors, his inspiring example, and his marvelous personal achievements.

He had peculiarities of character, sentiments and expressions ; what great man has not ? He had weaknesses, faults and even foibles, for he was only a man. Even his strong points were so sharp they hurt his antagonist, but who that succeeds has not to cut his way to recognition and success ? Yet in his peculiarities he was tolerant, in his weaknesses he was humble, and in his most brilliant fencing he was sure to heal the wound he made.

TO SUCCEED.

To merit success in any pursuit there must be thoughtfulness, perseverance, and continual well-doing. To get into a rut, or to imitate others, or to expect others to do our thinking, or to earn our money, or to create our success, is to fail.

Industry must have method, and in method there must be intelligence, wise forecast, and the executive ability of a skilful general; and we must push on with steady faith in ourselves, with thorough devotion in our work, and with an unconquerable purpose to succeed. Public opinion helps those who help themselves,—the self-reliant, plucky, enthusiastic; but it passes by the timid, half-hearted, and vacillating. Public opinion says to every one who would succeed: *deserve* success; *be a man*,—a man in strength of character, in nobleness of purpose and in maturity of spirit, mind, and muscle. Those who thus qualify and maintain themselves succeed.

Success presupposes conditions and preparations for it,—the energy, self-sacrifice, and self-abnegation which brings brawn and breadth and dignity, strength and wisdom and skill. We cannot safely jump into success; we are likely to get hurt, and soon fall back disheartened to where we belong. Some try to succeed by jumping into their father's shoes; but these shoes do not fit, and cause the young man to walk so awkwardly he generally makes a fool of himself. Nearly everything of real worth has to be earned. To be appreciated and judiciously appropriated, our possessions must have cost us their value. The very toil and struggle and plodding that bring solid gain, bring also the mature experience, thorough discipline, and hard knocks that make up stalwart manhood and permanent success.

By the recommendations of some of our educators we might judge they estimate the value of an educational course by its length, expense, and complexity. They seem to be inclined to go back to "the good old times," when a young man had to spend ten of the best years of his life at college, to be followed often by at least five years to unlearn some things he had learned, or to test

by practice what was useful, and what was hardly more than the rubbish of past ages.

For some time intelligent effort has been made, with considerable success, toward eliminating some of these effete studies; also, to divide the studies of a college course into specialties, so that a student disinclined, or unable, to take a full, general course could take a special course. But now, in some colleges, these special courses are becoming so weighted with studies of a general character that many are debarred from entering them.

Dentistry is such a specialty. While we insist on that culture, discipline, and knowledge that shall give the student dignity, scope, and exalted position, let us be careful not to require of him so many collateral attainments as to discourage him; let us persist that he shall come forth from his college equipped in all that shall make a good dentist, but not of necessity a complete practitioner of medicine, or a complete chemist, or complete in any other science, that is not essential to his chosen profession. Knowledge and skill in all these departments are pleasant and many times advantageous, but let us not make them essentials. Then, too, whenever, however, and wherever professional qualification is attained, let that insure graduation, be the preparation acquired at college or at home, in one year or three.

WHAT DISINTEGRATES OXYPHOSPHATE?

We hear so much about the acids of the mouth disintegrating oxyphosphate that we must repeat what we have previously said: A good oxyphosphate will resist all acids of the food and of those produced by fermentation in the mouth. Even lemon juice has no effect on it. We are not sure, but we might say these acids are preservatives of a good cement.

There is another fact not generally recognized,—the very opposite of the generally received theory: All alkalis, and especially ammonia, will attack this cement, reducing it to a powder. Put a piece, the best in the world (and, of course, this is Welch's) in liquid ammonia; in twenty-four hours it will be eaten

and riddled to the very center. Even soda water (the common baking soda) will do the same, though not so speedily. But put a piece of oxyphosphate in acid—even sulphuric—and you will be astonished to see how well it will be preserved.

And now allow us to say, though it is a little digression, that the popular theory that acid is the only disintegrator of the teeth is also fallacious. Ammonia is quite as powerful a disintegrator of the teeth. Have you not noticed that some decay in teeth is leathery, and in layers, peeling off in lamina by the excavator, or looking like shriveled-up flesh in the cavity of decay? But other diseased teeth are brittle and crumbly, a piece can almost be crushed to powder beneath the fingers. These opposite conditions are not brought about by the same cause.

In these latter, the disintegration is from loss through an alkali (generally ammonia) of the organic, animal framework of the tooth, as when soaking a tooth in a strong alkali. The other kind of decay—the leathery, laminated, spongy decay—is caused by an acid in active fermentation, and shows a loss of the inorganic, earthy ingredients of the tooth. The tooth-brush plows a furrow along the edge of the gum in some teeth, and we say it is from too harsh a use of the brush. Generally, it is because just under the gums there is ammonia that is eating out the organic, animal glue that in a normal state makes of the earthy portion a strong resisting cement of framework.

We do not refer to that acid or alkaline condition of the mouth to be discovered by litmus paper moistened in the saliva. Such slight acidity or alkalinity will not produce decay; neither will the fumes from an acid stomach. Decay comes from a nascent condition, caused by active fermentation, if acid; and from the vigorous attack of ammonia, if alkali. These nascent activities are in little pockets beneath the gum, or between the teeth, or in fissures, or in other places in the mouth, protected from the common fluids of the mouth; and sometimes they give a prominent feature to them.

Mr. Labords, a French scientist, has announced his discovery of a new anesthetic, which he calls crystallized narcein.

Miscellaneous.

THE PLATINA FROM ELECTRIC LAMPS.

It is singular that while this remarkable reduction is going on in the price of aluminum, the price of platina should be going up. Platina is one of the essential metals in the construction of successful incandescent lamps ; in fact, it is said that it is now one of the largest items, there being eight cents' worth of platina in each lamp. So well is this fact recognized, that of late some of the lamp manufacturers have collected the butts of old lamps that had done service, and have recovered the platina by smashing the glass and plaster, and extracting the bits of wires.

—The Safety Valve.

FOR SOLDERING ALUMINUM.

Gold.....	30 parts.	or,	Gold.....	50 parts.
Silver.....	20 "		Silver.....	10 "
Platina.....	1 "		Copper.....	10 "
Aluminum.....	100 "		Aluminum	20 "

Schlösser.

THE DANGER LIMIT TO INFECTIOUS DISEASES.—*The Sanitarian* Paris correspondent of the *American Practitioner and News* for July 19th, reports, that at a recent meeting of the Society of Public Hygiene, the following table was drawn up for the information and guidance of the masters of public schools with reference to the prophylaxy of infectious maladies, and the time that may be allowed to intervene between the onset of the malady in a pupil and the date that he may be re-admitted into the school :

MALADY.	PERIOD OF		PERIOD OF RE-ADMISSION THAT MAY BE AUTHORIZED.
	INCUBATION.	INVASION.	
Scarlet Fever....	7	2	Forty days from the first day of invasion.
Measles.....	9	4	Twenty-five days from the first day of invasion.
Whooping Cough	12	8	Thirty days after disappearance of the characteristic cough.
Diphtheria.....	5	2	Forty days from the first day of invasion.
Mumps.....	18	2	Twenty-five days from the first day of invasion.
Varicella	14	2	Twenty-five days from the first day of invasion.

General Lew Wallace, the author of "Ben Hur," says he can cure rheumatism in one night without fail by a poultice of mustard and garlic applied to the feet. If this is true the other half of the world's population will now rise—after the cure—and call General Wallace blessed.

—New York World.

HOT WATER REMEDIES.

Headache almost always yields to the simultaneous application of hot water to the feet and back of the neck.

A towel folded, dipped in hot water, wrung out rapidly and applied to the stomach, acts like magic in cases of colic.

There is nothing that so promptly cuts short congestion of the lungs, sore throat, or rheumatism, as hot water, when applied promptly and thoroughly.

A towel folded several times and dipped in hot water and wrung and applied over the toothache or neuralgia, will often afford relief.

A strip of flannel or napkin, folded lengthwise and dipped in hot water and wrung out, and then applied to the neck of a child that has the croup, will usually bring relief in ten minutes.

Hot water taken freely half an hour before bed time is the best cathartic possible in the case of constipation, while it has a most soothing effect on the stomach and bowels.

—Hall's Journal of Health.

Philadelphia maintains her rank as the greatest manufacturing city of this country, producing \$178,148,000 of value; New York \$6,000,000 less; Chicago comes third with \$68,000,000; then Brooklyn with \$61,600,000; Pittsburgh, \$52,600,000; St. Louis, \$50,800,000, San Francisco, \$35,300,000.

Three thousand millions of pounds is the estimated yearly production of paper. The United States has 884 paper mills and 1,106 paper machines; Germany, 809 mills and 891 machines; France, 420 mills and 525 machines; England, 361 mills, 541 machines; Scotland 69 mills, 98 machines; Ireland, 13 mills, 13 machines; Russia, 133 mills, 137 machines; and Austria 220 mills, 279 machines.

A company has been formed in Chicago, with a capital of ten million dollars, for the manufacture and use of aluminum. It is called the International Aluminum Company.

Thomas Colt, fourteen years of age, was taken to the almshouse in New Haven, Conn., recently, violently insane. His mental derangement was caused by cigarette smoking, and while raving he continually shouted for cigarettes.

The discovery of nickel near the village of Pleova, Ontario, has created much excitement. It is said to be "of a very fine quality compared with that found at Sudbury."

TO REMOVE DANDRUFF.—Jamacia rum, one pint; bay rum, three-quarters of a pint; glycerine, two ounces; carbonate of ammonia, one ounce; borax, two ounces. Wash the skin of the head with a piece of sponge dipped in this solution, after which thoroughly rinse with tepid water. This should be used once or twice each week.